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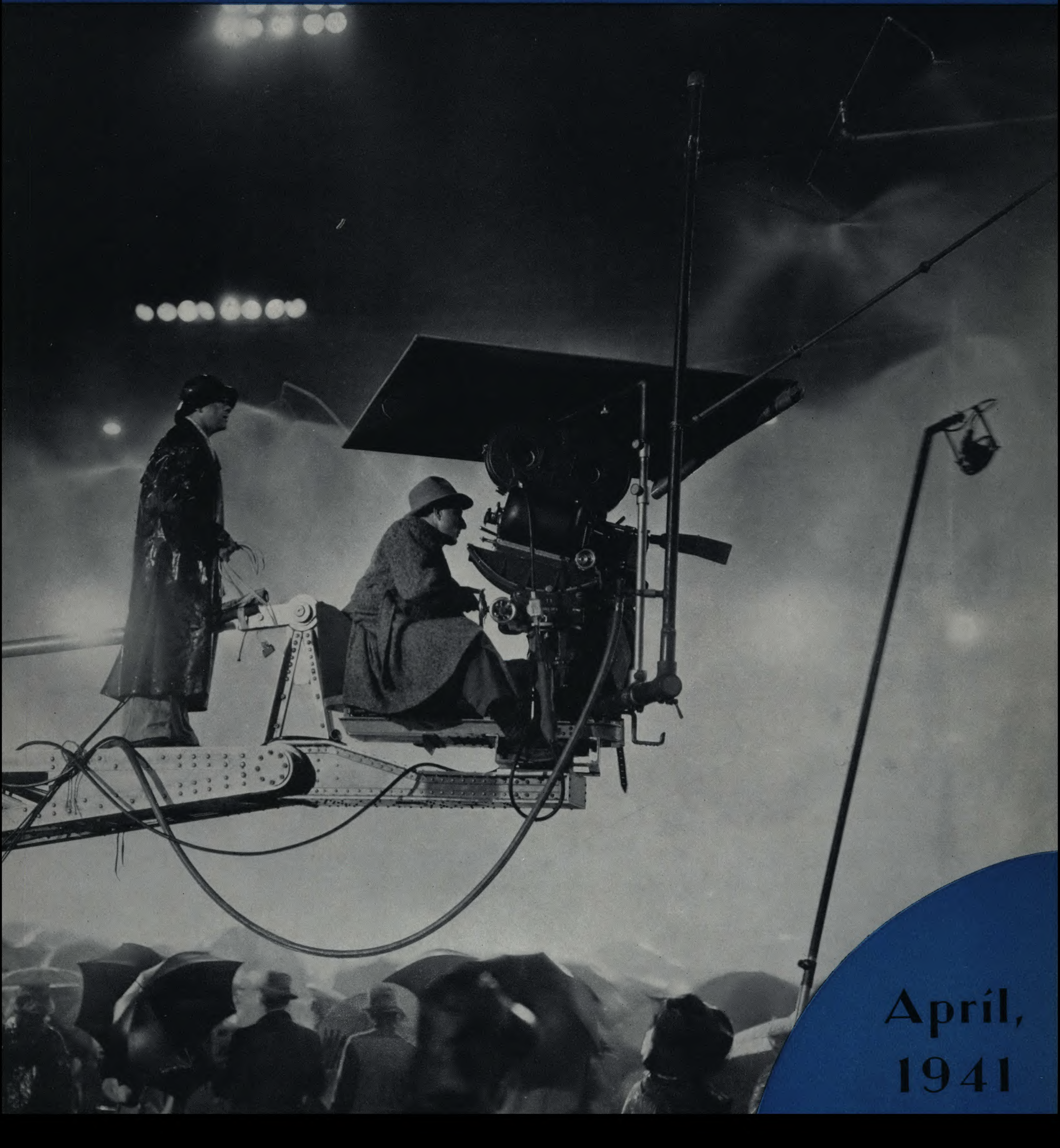

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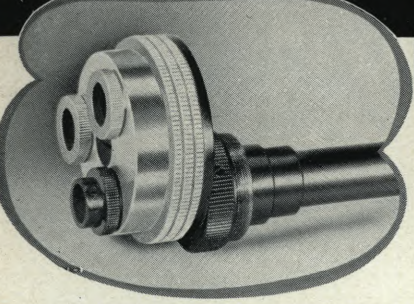

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The Front Cover

The front cover this month shows the making of the rain sequence from the Frank Capra-Warner Bros. production, "Meet John Doe." We can't find Director of Photography George Barnes, A.S.C., but Director Capra (standing) and Operative Cinematographer Irving Rosenberg can be seen riding the boom. Note sprinklers used to provide the "rain." Still by Mack Elliott.

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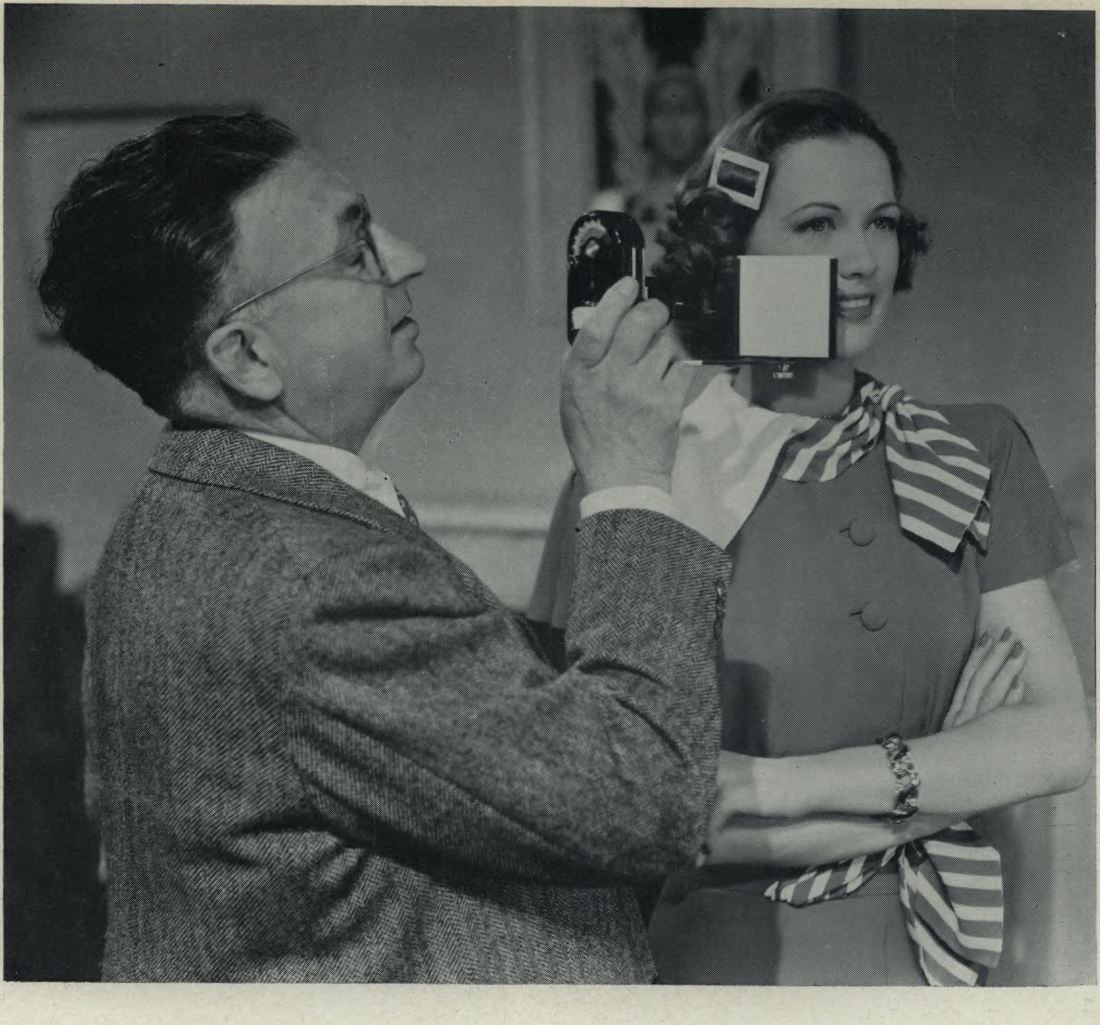


A Reflection-type Meter For MAKING INCIDENT-LIGHT READINGS

By KARL FREUND, A.S.C.

SPEAKING broadly, the modern photoelectric exposure-meter is undoubtedly one of the most valuable photographic accessories developed during recent years. But insofar as the studio cinematographer is concerned, it seems equally clear that these meters have not yet attained their greatest usefulness for the simple reason that no meter has yet been designed to meet the specific requirements of studio cinematography.

It is well recognized among members of the camera profession—even if not by the meter designers—that the studio Director of Photography does not require an *exposure-meter* in the ordinary sense of the term. Neither does he require, as so many of these designers alternatively think, a conventional foot-candle meter to measure the *total* brightness of the illumination falling on a given subject. What he *does* require is a precision light-measuring instrument of great selectivity, by means of which he can measure the intensity of the light reaching his subject from a single light-source—the key light—to which he can thereafter balance the rest of his lighting visually.

Obviously, for this purpose the conventional meter and meter-using technique of taking a reflected-light reading, either an overall reading of the scene as a whole, or a slightly more selective reading of the subject's face alone, is valueless.

Therefore the majority of us have developed individualized, but basically similar methods of using conventional meters for incident-light readings. In some studios, General Electric meters are used, with or without special hoods and reducing apertures to reduce the light received to a conveniently usable amount. In many other instances, individual cinematographers have made their own reducing apertures, which vary so greatly that in some cases the readings used by individual cinematographers in the same studio bear no fixed relation to each other. In other instances, cinematographers have utilized Weston meters—especially the new Weston "Master" model—similarly, both with and without modifying aperture-plates. The Technicolor Corporation, as is well known, have their own type of meters, specially adapted from Weston foot-candle meters, but used in essentially similar ways.

I think it will be generally agreed that while these meters all present considerable advantages, they all suffer from one uniform difficulty: *none of them are sufficiently selective.* A very slight difference in the positioning or angling of the meter will make it give greatly different readings. It may scan more or less of the beam of the key-light, or even be further thrown off by including some of the "filler" or cross-lighting illumination. It is entirely possible for two individuals to take readings on the same scene with two meters which on the test-bench check with each other perfectly, and — simply due to slight differences in the way they position their instruments — obtain noticeably different light-value readings.

With this in mind, I have recently developed a meter which in the opinion of engineering experts from Technicolor, Eastman, and other organizations, as well as in my own opinion, appears to mark a worthwhile stride toward the elimination of these errors.

The foundation of the meter is a standard Weston "Master" exposure-meter. The only permanent modification made in the meter itself is fitting its case with two small metal rails upon which my fitting is mounted.

Sliding into place along these rails is a dovetailed metal lens-mount holding an old 2-inch camera-lens. With the meter's hinged light-baffle hinged out of the way to permit low-brightness readings, this objective is slid into place over the meter's photoelectric cell.

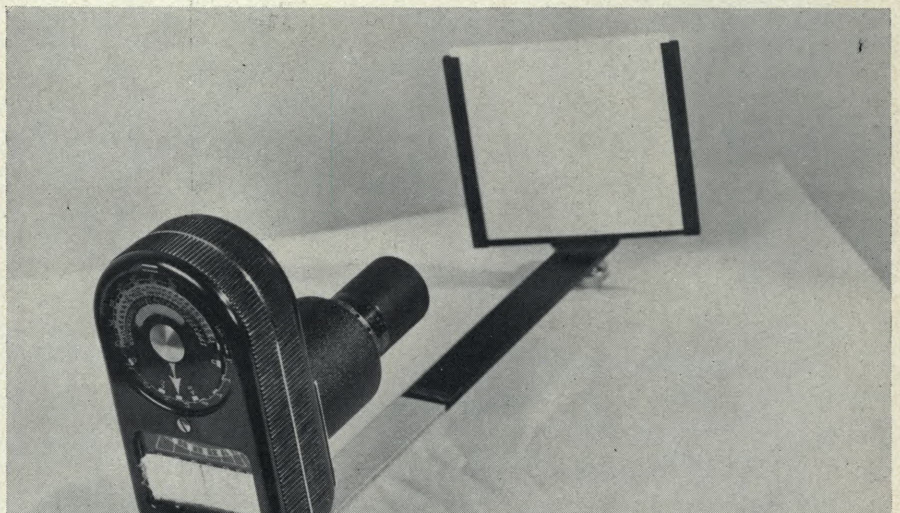
Extending forward some eight or nine inches from this fitting is a small metal bar. At the outer end of the bar is mounted a white target-field about three inches square, upon which the lens is focused. This target carries a sheet of matte-white cardboard identical with that used in the well-known Eastman color-temperature meter. It is mounted so that it may be inclined to one side or the other of the meter-lens axis, to avoid reading in the meter's shadow. In practice, about a 45-degree inclination is used.

In use, the meter is taken to subject-position and placed so that the white target-card is illuminated by the key-light, and the reading is taken. It is quite easy to determine visually when the card is in the key-light's beam. Due to the fact that the lens' field is confined solely to the area of the target-card, and that the lens is also quite deeply hooded, the meter can ordinarily read *only* on the key-light. Experience has shown, too, that unlike conventional meters, minor changes in the angle of the device do not produce disproportionate changes in the meter's reading.

For my own use, I have further simplified things by placing a strip of white tape over the meter's dial, concealing the usual calibrations, and bearing two arbitrary ones directly related to my own work. One of them represents the 500 foot-candle key-light level preferred for Technicolor. The other represents the somewhat lower key-light level I find preferable for black-and-white. It would of course be entirely possible to dispense with these calibrations, and arbitrarily use whatever points on the meter's original scales might be found suitable; in fact, for the free-lance cinematographer going from one studio or laboratory's processing standards to those of another, this might be preferable. For my own use, however, I find that the two-point scale makes for quicker and more convenient use.

An essential feature of this adaptation is the fact that it does not make any permanent change in the meter itself. Most of us, when working on exterior scenes, use our meters in the conventional way, as exposure-meters for overall reflected-light readings. With this device, all that is necessary is to slide the auxiliary lens and target off, and the basic Weston meter is ready for use, quite unchanged.

While this adaptation of a familiar, commercially-available meter probably does not represent the ultimate in light-measuring instruments for studio camerawork, and can—and probably will—be improved as other cinematographers and engineers experiment with its basic principle, I feel that it does at least mark a forward step in our search for a simple, selective and uniformly accurate meter for professional use in studio interior lighting. It is with the hope that out of it may grow further advances in the design and use of meters to simplify our lighting problems, rather than with any desire for personal credit, that I have taken this means of bringing it to the attention of the industry.



Two views of Freund's meter: Above, assembled; below, disassembled. On opposite page Freund is shown making a reading with the meter while filming Eleanor Powell. Photos by Virgil Apger.

Aces of the Camera

IV:

JOSEPH WALKER, A.S.C.

By WALTER BLANCHARD

A BIG part of the fascination of Hollywood is the way in the midst of its traditionally hard-boiled routine, real-life incidents occur in which the story-book happy ending is seen to come true. When these things happen, most of us generally put it down as a "lucky break" for the individual concerned, and forget that there's usually someone doing hard—and unpublicized—work behind the scenes to turn anticipated failure into amazing success.

All of which is by way of introducing an unassuming man who played a big part in one of those real-life Alger stories not so long ago. It seems that an internationally famous operatic star signed to make a picture for a relatively small studio which was then struggling on the wrong side of the mythical line of demarcation between minor-league and major-studio status. The industry was politely skeptical, for this star had made several pictures for another, much larger studio, and emerged with the general verdict that even though she could sing well enough for the Metropolitan Opera, she was unfortunately not a "picture personality." It was too bad the little studio was going to be saddled with a costly flop, but of course it couldn't be anything else.

But it was. The picture was a smash hit. Grace Moore, the opera-singer, emerged radiantly as the top picture personality of the year. It brought back musical films with such a bang that for years no studio with any pretense of standing could afford not to have one or two operatic songbirds on its contract roster. And it boosted the Columbia Studio well across the line into definite major-studio classification. That picture that "couldn't be a success" was "One Night of Love"—which probably played to more business than any other release of its season.

But it wasn't just a lucky break that turned failure into success, and transformed a non picture personality into a top-flight star. There was a quiet, unassuming man by the name of Joseph Walker, A.S.C., presiding over the cameras on "One Night of Love." And it was due in a great measure to his professional hobby that the visual miracle of the picture transpired.

For Joe Walker's hobby is collecting lenses. He gathers them from every possible source—fresh and new from the world's greatest lens-makers, old and battered from Los Angeles' pawnshops. And he knows lenses so well that each individual objective's characteristics and performance are at his fingertips. With him, it isn't a case of merely saying "A Cooke will do this, an Astro, that, and this other type, something else." He knows, from exhaustive study and tests, that this particular Cooke will perform this way, while that individual Cooke—apparently of the same design and manufacture—will act differently under such-and-such conditions. He has the industry's largest individually-owned collection of lenses and diffusing media.

So it was that when the apparently non-photogenic Miss Moore came to Columbia, Joe Walker analyzed her features, thought a minute, and reached into his lens-case for a combination of lens and diffusion which were just a little bit different from anything previously used in photographing the lady. Add to this the skill Walker and Director Victor Schertzinger have in making a player feel at ease, and, well, Horatio Alger might have penned the sequel.

If you ask him about it, Walker puts it very logically. "Years ago," he'll say, "I decided that the real foundation of photography was the lens that made the picture. And as photography was my bread-and-butter, I decided I'd better know something about lenses. And I've been learning about them ever since."

In the process, he has made a number of important contributions to the optical side of cinematography. For example,

(Continued on Page 198)

ARE WE
Afraid of Coated Lenses?

By CHARLES G. CLARKE, A.S.C.

SINCE the announcement some time ago that glass surfaces could be coated with a transparent material, applied in microscopic layers or laminations, for the purpose of reducing surface reflections, it was immediately seen that this process was one which could be used on photographic lenses with possible benefit.

Most of the major studios proceeded to have a set of lenses or two coated with the new material. It was soon discovered that the coating did more than simply control the unwanted reflections and flare, the most apparent difference being in the added definition, an increase of brilliance or contrast, and surprisingly enough, an ADDED transmission of light. The extra exposure amounts to about a full f-stop.

The first two effects are direct results of the anti-flare coating, for it is realized that the interior reflections from the several elements of the modern un-coated lens kick back and forth, greying over the shadows and blurring the sharpness of the focus. Just why an extra layer of not too clear coating applied to the several lens-surfaces should increase the light transmission is more than I understand except that the higher contrast values apparently increase the exposure.

The increase of contrast and definition were values not expected and in a measure may be part of the reason why coated lenses are not more generally used than they are. I know of several instances where cinematographers have had lenses coated, but after a few days' use have returned to their un-coated lenses, except for some very long shot or an unusually-lighted scene.

The manner of lighting and of developing the negative for un-coated lenses have so long been thoroughly familiar: but it is clear that a new technic must be developed for the coated ones. This is especially true in close-up work. Even with un-coated lenses diffusion-discs, gauze diffusers, and the like, are usually used with medium close-ups and always when large close-ups are made. It would seem that the same rule should apply when using coated lenses modified, by simply adding heavier diffusion to countereffect the sharper definition of the coated lens.

However, when an uncoated diffusing medium is introduced into the optical system of an otherwise coated lens, most of the benefits of the coating are lost. *The quality of the lens reverts back to that of an ordinary lens.* Unless the lighting-contrast is modified for use with this combination, the result on the screen in the finished production will jump from one value to another quite different when diffused and un-diffused scenes are cut together.

The brilliant, well-defined image possible with the coated lens, while having an extremely long range between highlight and deepest black, is not to be confused with that quality generally called "hard" or "chalky," for the coated lens gives a long range of middle tones and "holds" detail in extreme shadows and highlights as no un-coated lens will. Though a close-up may be lighted in the extreme key, the high-lighted area renders all of the skin texture; white collars reveal their weave, and yet every detail is visible in the darkest clothes and deepest shadow.

To my mind, this quality of brilliance and definition is far more apparent and valuable than the anti-flare characteristic. One must still avoid photographing into extremely strong sources of light, such as lanterns, flashlights and highly burnished metallic surfaces, though a much greater range in this respect is possible than with the un-coated lens.

Several productions are now showing where use of the coated lens is evident. "Tall, Dark and Handsome," "Tin Pan Alley," "Citizen Kane" and several others are among them. A sensational example of the anti-flare possibilities is in evidence in "Citizen Kane" in those scenes in the Opera House where the camera is directed into the footlights and floodlights that illuminate the character on the stage.

I have recently completed a picture which presented an interesting experiment for the use of coated lenses. The picture is "Dead Men Tell," the latest of the Charlie Chan series. As the title indicates, it is a murder-mystery, and calls for most of the production being photographed in extreme low key Effect Lightings. As the story permitted an unusual photographic approach, I determined to use the coated lenses for every quality they had in them.

Rather than endeavoring to bring the contrast and definition more nearly to the customary values of the average production, I went perhaps to the opposite extreme by striving to take advantage of all the definition and brilliance that the coated lenses and the new Twentieth Century-Fox camera would allow. This camera, it must be mentioned, in itself permits unusually well-defined photography because of the shutter placement and silent operation. The camera is not blimped, and therefore there is no need to use a glass window before the lens.

In "Dead Men Tell," no diffusion was used on any scene, close-up or otherwise, except that in making a sequence of night-exteriors on a dock set a light haze-filter was used for atmospheric effect.

Obviously, of course, in making some of the larger close-ups of the feminine players the strictly literal rendering of the coated lens with no diffusion might be unflattering and hence undesirable. But it seemed to me that we have at hand means by which this can be corrected even without recourse to the conventional photographic diffusion methods. Therefore I attempted in making these close-ups to control the visual effect through the light-source rather than through the lens, lighting these shots with more of a portrait-lighting style than with conventional cinematographic lighting technic.

The key-light was usually a heavily-silked broadside or rifle, rather than the spotlights generally used. As is well known, the smaller the actual source from which light comes, the sharper the definition of the resulting image will be, and conversely, when the source of light is from a physically large area, the definition of the photographic image is correspondingly softer. This is heightened by the use of heavy diffusing media over the light-source, for this again breaks up the light-rays from a hard beam to a softer flood, and tends to "iron out" wrinkles and similar facial imperfections.

This treatment, I found, worked excellently in making these close shots of the ladies. It enabled me to retain the brilliant photographic characteristics of the coated lens, and at the same time create an effect which presented these ladies pleasingly.

In photographing the male characters, especially the suspects, more conventional lighting methods were used. Keg spotlights were employed in the usual manner, with very strong modelling. This took full advantage of the coated lens' characteristics, and gave an effect of strength and masculinity which not only contrasted usefully with the more softly-lit presentation of the ladies, but coordinated well with the dramatic mood of the story.

Another modification in lighting which I found useful was the fact that very little or no front-light was used throughout the picture. For the coated lenses, I have found, have the ability of getting into the shadows in an uncanny manner. Very possibly this characteristic is due to the fact that in eliminating internal flare and reflections, the lens-coating

(Continued on Page 199)

HANDLING FILM ON DISTANT LOCATIONS

By GLENN R. KERSHNER, A.S.C.

BEING a globe-trotting cinematographer—whether you're making a photographic record of an exploring expedition or filming atmospheric and background scenes for a studio production — seems to have a glamour no other type of photographic work has. But it also has some special problems and headaches which go a long way to offset the glamour of making pictures in far-away places.

Take Tahiti, for instance. I've been there many times since the long-ago days in 1922 when we went there to film "Lost and Found," the first feature picture to be made in the South Seas. It is one of the most fascinating spots in the world—born of volcanic origin but now covered with rich tropical verdure, Tahiti is a photographer's paradise, with its lofty mountain peaks, flower-filled valleys, waterfalls and flowing rivers, coral reefs and lagoons, and its picturesque, happy, brown-skinned natives.

But the same thirty-seven hundred miles of blue ocean you cross to get to Tahiti also separates you from the laboratory that processes the film you are shooting. Weeks — sometimes months — elapse before you can possibly get the welcome word from the lab that your stuff is OK. Light-conditions here, as in many other far-away spots, are 'way different from those you've been accustomed to back in Hollywood. They can fool your eye, and even deceive the electric eye of your meter. Climatic conditions, especially in the tropics where you have the combination of heat and extreme humidity, can spoil film in a hurry if you don't know how to guard against it. If you're to have any peace at all, you must know for sure that your film is exposed right, and kept right, so that when, back in Hollywood again, you go into the projection-room in the lab, you will see on the screen what you tried to photograph so many months before.

There's been a lot said and written about taking care of films in these distant locations, while most of it is technically correct, I can see that plenty of it has been written by scientific experts who, while they may have the necessary technical data at their fingertips, have had little or no actual experience in the field to show them the many little practical short-cuts that show you what is and what isn't really necessary, and how to get along without deluxe conveniences you can't always have on such trips. Here, at any rate, are some of the tricks I've learned while wandering with a camera from Papeete to the Arctic.

One of the first and most necessary things—especially when you're working in the tropics—is to learn how important it is to be careful with the loading and unloading of the negative. Sometimes when the weather was too damp I have found it necessary to dehydrate all exposed negative but as a rule I seldom use anything other than the dry paper removed from the unexposed negative.

By forming a habit of reloading the empty side of the magazine first, then removing the exposed negative and wrapping it immediately in the dry paper that has just been removed from the loaded negative you are perfectly safe. The paper has not been exposed to the air long enough to absorb any dampness whatever. Then if there should be any moisture at all on the exposed negative, the dry paper will absorb it.

Chemicals are all right for dehydration providing you have an ample supply, but on expeditions where every little bit of weight is counted I find a piece of soft rock or portion of brick, heated until bone dry, is every bit as good. I might say I have seen some terrible and costly mistakes made by wrapping dehydrated negative in paper that has been exposed to the air and was damp. Paper that has been exposed to moist, tropical air should always be baked and dried out before using.

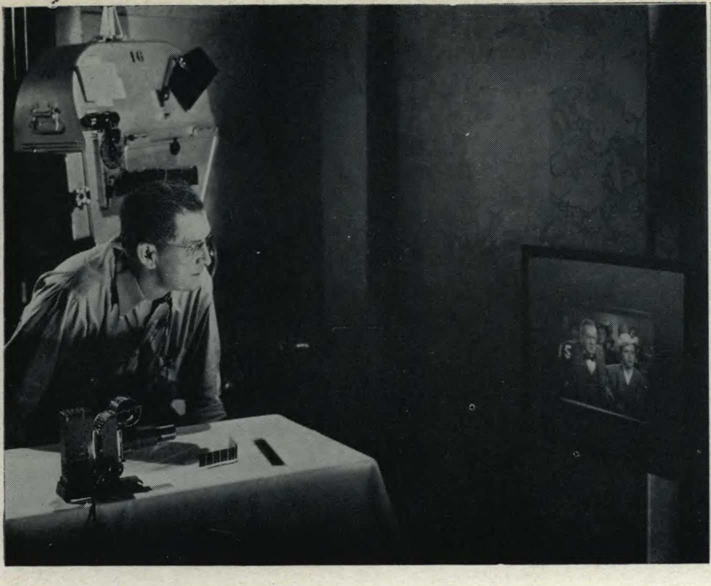
To guarantee the studio perfect exposure for the particular developing methods of their lab, it is essential for the travelling cameraman to make plenty of tests, and make them accurate. Of course today we have photoelectric light-meters to guide us in making our exposures, and few, if any, really good cinematographers would go into the field without one or better two dependable meters. But—accidents will happen, and besides sometimes local temperature, magnetic and other conditions can throw even the finest meter off. So to be really safe and sure, I've found it is best to have and use a good meter—and to back it up with plenty of tests, made and developed right in the field, immediately after shooting each important scene.

A test-box is a simple little thing to make and use. Just a little, light-tight box with two compartments to hold small bottles of developer and hypo, with light-proof sleeves like those on a changing-bag, and a fitting on the cover so you can take the magazine off your camera, put it on the test-box, and draw out a few inches of film to be developed for your test. I've carried mine for twenty-three years now, and roamed all over the world with it. And I've noticed that while when I first started using my little text-box, many cinematographers and others laughed at it, now none of them would think of going on location without one.

Now there is still another situation that will confront the cameraman out on the firing line of these expeditions. Naturally we are happy when we have ice and can keep our developers, hypo and wash water at the normal temperature of 65° F. at all times. I have seen the time when my developer was around 45 and no higher on account of the north. Then again I have been in the South Seas on a schooner that was as hot as a tea-kettle, or on an atoll where the sun fairly burned you into a cinder, and the best we could do without ice was to get the test thermometer down to 85°. Now how long were we going to develop the test to see how it looks as to exposure, scratches, perforation punches, dirt, etc.? If we develop the regular time which is too long in the warm solution, the picture will be badly overdeveloped, and probably the emulsion will slip off the film.

Here is a method that we used; I can only speak for what we did and not for what others should do. I was shooting Eastman Super-X film and to develop to a fixed contrast (Gamma=0.65) we set nine minutes as a standard development and here is a table that has helped to solve my problem either in the artic or torrid zones. When I found my developer 65 the test was developed exactly nine minutes, when the thermometer showed me the developer was 70 I only developed the test 6.8 minutes, or 0.75 as long. If 85° only 2.8 minutes or 0.30 as long. And up in the arctic I did just the reverse. When the developing solution was 50° I had to develop 28

(Continued on Page 186)



An Improved Method for Analyzing Light-Tests

By CLYDE DE VINNA, A.S.C.

and

JOSEPH RUTTENBERG, A.S.C.

EVERYONE familiar with modern cinematography is familiar with the value of the light-test or "Cinex strip" as a guide to the Director of Photography in checking many important details of his work, such as lighting-balance, exposure, and the like. This is especially the case on occasions when the cinematographer finds himself returning to a sequence filmed days or weeks before, and trying to match his original treatment for making retakes or added scenes.

However, the physical nature of the light-test strip imposes certain inevitable limitations which, especially in the matter of matching up retakes, can lead to inaccuracies. Since it is printed on normal-sized 35mm. positive film, the small size of the image makes exact study of the finer details of lighting, composition, etc., difficult if visual inspection alone is used. Moreover, considerable error can be introduced by the different impressions of image densities gained by direct visual inspection and by viewing a projected image.

At the same time, a test-strip a scant dozen frames in length is obviously too short to be studied in enlarged form by conventional projection, while the use on the set of a cutter's Moviola is not always convenient. There is also the disadvantage that in most of these viewers the magnified image is not easily viewed by more than one person at a time.

Casting about for some convenient and practical method by which these difficulties could be overcome, both of the writers were impressed by the possibilities offered by the projectors used for viewing 35mm. miniature-camera slides and Kodachrome transparencies. These little projectors are compact and efficient, will operate on either alternating or direct current, and project an excellent image.

However, the majority of these projectors are designed to accept only properly mounted double-frame 35mm. minicam slides, and could not be used for strips of single-frame 35mm. film.

Finally, however, each of us independently discovered that one manufacturer has for some years been making a miniature projector capable of handling either single-frame or double-frame film strips. This is the SVE Picturol projector, which is made primarily for business and educational use. It has proved excellently adapted for the purposes we wished.

For some time both of us have been using these little projectors to great advantage. By good fortune it happens that this particular design is probably the smallest of 35mm. slide projectors. Therefore they can be very easily stowed in the average camera accessory case, and be always available for use on the set.

In use, it is very simple to find a conveniently dark corner of set or stage, set up the little projector, slip the light-test strip into it, and project an excellent, enlarged image onto a conveniently-sized screen where it can be viewed and studied by the Director of Photography, the Director, if necessary, and by the photographic crew and Gaffer. We generally employ a screen about 24 inches wide for this purpose, though the projector is capable of projecting an image three or four times that size. Some of the small screens made for editing home movies are excellent for this purpose. In an emergency, a white set-wall has sometimes served adequately as a screen.

Projecting your light-tests this way one has the advantage of the enlarged, projected image which gives an ideal opportunity for studying the finer details of lighting, composition and the like which are ordinarily not well discernible in directly viewing light-tests, and also of being able to judge densities more accurately in the projected image.

The model both of us have been using employs a 100 or 150-Watt globe. However, other models are available which take more powerful lamps, up to about 300 Watts. With some of these higher-powered lamps it should be entirely feasible to adapt the idea for similarly viewing Technicolor "pilot" strips. In this instance it would probably be wiser to use a rather high-powered globe and correct the color-temperature of the light by means of a suitable filter to conform to the arc standard by which Technicolor print color-balance and density are usually judged.

While, as has been pointed out, there is nothing particularly new in the equipment used, we believe that this particular application is new, and of value to studio cinematographers.

PIONEERING IN TALKING PICTURES

By LEE DE FOREST

TO pioneer has always been with me an obsession. Perhaps the yearning to explore new fields was and inheritance from colonial ancestors. Vanished geographical frontiers still left far vaster regions in science and technology to explore. When early wireless began to be a bit crowded the radio telephone field, then scarcely a dream even among communication engineers, beckoned me irresistibly. This primitive beginning of the radio broadcast, in 1908, logically necessitated the development of the electronic amplifier from the audion detector tube, and thus again I managed to escape the crowd. And when, in 1912, this amplifier proved to be also an oscillator, a boundless ocean disclosing alluring archipelagoes of practical application was opened to scientific research.

It then became apparent that many a forgotten dream of other early inventors might finally be brought to realization. Among such in the sea of television were the scanning disk of Nipkow, the cathode beam picture of Rossing, Cambell-Swinton's invention of the cathode-scanning beam (recently perfected in Zworykin's "Iconoscope") —all brilliant conceptions which must needs remain only blueprints and Letters Patent, for the simple lack of an inertialess amplifier of a hundred million magnifying power.

Similarly in acoustics the primitive but all-embracing patent of Fritts, breaking all records, embalmed for thirty-six years in the Patent Office; and that of Elias Ries who in 1913, before the photo-electric cell, or the amplifier which could make it useful, described the remaining essentials of photographic sound-on-film recording and reproducing.

In 1919, happily unconscious of these then buried documents, I decided the time had at last arrived when sound photography should definitely give a voice to the picture film.

I essayed at first three methods of sound recording, the speaking flame, the tiny incandescent filament, and the glow-tube. The latter soon showed itself to offer the only hope of practical success.

My first demonstrated actual combination of sound-on-film and talking picture was at my old High Bridge, New York, laboratory in the spring of 1921, shortly before I removed to Berlin. My then assistant, William Garity, still cherishes a few film samples of himself holding the hand microphone, while I served as cameraman.

This early work, when apparently only we two (and he, somewhat skeptically) believed there was a commercial future for the talking picture, evidently sank deep within his soul; for today Garity is chief factotum for Walt Disney; possibly because that primitive recording was chiefly suggestive to him of the squeaks of Mickey Mouse.

It was in the spring of that year, 1921, that my difficulties in developing properly a sadly underexposed sound record and overexposed picture on the same film suggested the use of two separate, synchronized negatives, one for the picture, one for the sound, each given its proper development, and each printed successively on a common positive.

My patent application covering this basic principle was finally rejected after a bitterly contested interference proceeding with that by the Tri-Ergon inventors. The destiny of this latter patent in our Supreme Court is now recent history, familiar to all. I still maintain, however, that here resided a genuine invention, once a total novelty, and now of tremendous practical value.

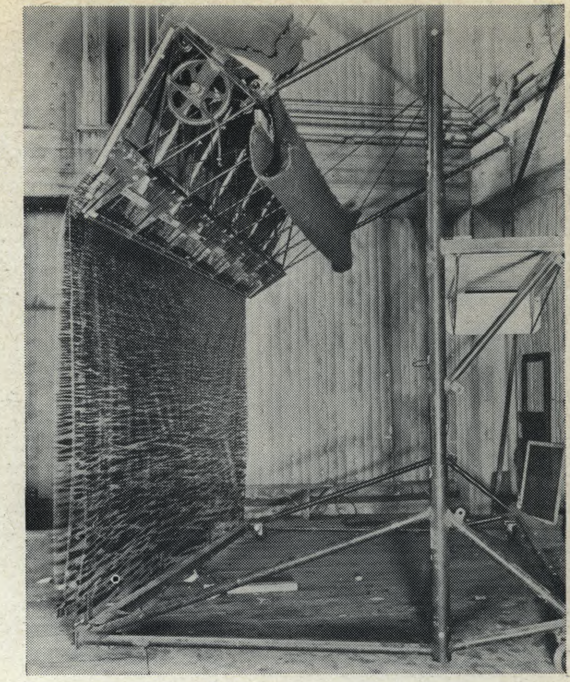
Shortly after my return to America a year later, in 1922, and my installation in a genuine motion picture studio, that ancient remodelled brewery of Tec-Art on East 48th Street, I was visited by Theodore Case of Auburn, N. Y. He watched my work and shortly thereafter summoned me to his laboratory to show me a gassy Western Electric amplifier bulb whose "blue haze" was fluttering in accord with telephone currents from his microphone. Forthwith I sketched out the first oxide-coated cathode glow-tube, which he and E. I. Sponable, his gifted assistant, constructed and named the "AEO light" (Dec., 1922); whereupon I proceeded to scrap my radio-frequency recording oscillator and metal-cathode glow-tubes in favor of this low-voltage direct-current source. I also discarded my Kuntz photoelectric cells, difficult to obtain with uniform quality, in favor of the far more sensitive Case "Thalafide" (resistance) cell, enthusiastically regardless of the fact that the latter cut off quite effectively below 3000 cycles.

After this experience I returned to the use of the photoelectric cell with resultant gain in quality, and to the use of the metal cathode recording light, but designed to operate on low voltages, thus obviating the use of the radio-frequency oscillator of my first system. I shall refer to this feature hereafter.

But now the more directly commercial requirements, following upon my introduction of the "Phonofilm" to Broadway audiences under the far-visioned sponsorship of Dr. Riesenfeld, at the Rivoli and Rialto Theaters on April 15, 1923 resulted in filing early patent applications in 1923-25 on such extremely practical inventions as these: the use of two or more picture cameras at different angles and focal distances, all synchronized to a common sound-record-

(Continued on Page 201)

So many people believe that talking pictures sprang full fledged from "The Jazz Singer" in 1928 that we are delighted to republish this article by Dr. De Forest, which appeared in the Journal of the Society of Motion Pictures Engineers, Vol. XXXVI, January, 1941. Ed.



Right, Warner Bros. Ripple Machine. Left, the result as seen in a scene from "The Sea Wolf."

FREEDOM OF THE SEAS--ON A SOUND STAGE

By

ANTON GROT and LEO KUTER

FREEDOM of the seas—on a sound stage—was the objective that actuated the design of the "Ripple Machine." Officially, it has a much longer title, being known at the U. S. Patent office as "The Water Ripple and Wave Illusion Machine." The Academy of Motion Picture Arts and Sciences also used this longer designation when honoring us with an award this year. But for the purposes of our account, let's just call it the Ripple machine.

Why design a machine, you may ask, when satisfactory results can be obtained through the use of marine "process" or "transparency" shots? Have you ever tried panning or moving your camera about when shooting process? You have no freedom of action or movement. It was to give the director and cinematographer such freedom within studio confines that a marine stage was equipped at Warner Brothers.

By use of the Ripple machine, a degree of perfection was attained that presented the illusion of unlimited lengths of distant marine horizon, impossible with projected backgrounds.

The machine is built in units fifteen feet long. They may with ease be joined in series, and when placed behind a muslin or similar backdrop, and illuminated, the three vertically-suspended transparent screens being actuated, the opaque wave patterns thereon provide an effective simulation of the undulating surface of a natural body of water. The machines are designed so as to permit setting the horizon level at any height desired.

We first utilized the wave illusion in the production of "The Sea Hawk," and later, with several improvements, in "The Sea Wolf," just released. Both of these pictures had been filmed previously, but under much different circumstances. Both had been photographed actually at sea.

In the case of "The Sea Hawk," in its first production sixteen years ago, real ship hulls were used, over which 16th Century superstructures were built. Topheavy and cumbersome, the rebuilt vessels were a menace to the lives of those who sailed them off the Southern California coast.

No need to go into the added production costs, the inconvenience of navigating unseaworthy craft or the delays caused by landlubbers among the cast and studio crew. In those days, it was unthinkable that the same latitude and freedom of action could be duplicated on a studio stage as was then enjoyed by the use of a camera at sea. But the technical aspects of the motion picture have advanced greatly in the last five years—thanks to the close cooperation of art directors and cinematographers.

Five years ago, initial experiments were carried on toward the objective of shooting a sea picture entirely on a sound stage. This was for the production of "Captain Blood." And this is how it was done.

Stationary and moving ships were constructed on a regular stage floor, with painted backings to represent the sea and sky. Here and there a few piano wires were strung horizontally over the sea areas, with shining, glittery materials fluttering from them. This in an attempt to simulate light patterns on the water.

The attempt was reasonably successful. But inasmuch as the ships did not rock or roll, the backings had to be rocked and pulled up and down by laborers. The shortness of backing lengths did not allow the cinematographer much leeway to pan his camera. The result was that action was reduced to short widths, with many cuts, and the illusion of interminable distances was rarely obtained.

The experiment did, however, prove one point. Motion pictures did not have to go to sea to film a sea story. The public was satisfied with what it saw on the screen in "Captain Blood."

Improvements were demanded for the production of "The Sea Hawk" last year. For one thing, the script specified action difficult to obtain unless the ships were motivated. We went to work on the problem of making them rock and roll, toss and twist. The stationary back-

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A.S.C. on Parade

Miller Wins Preview Poll

The critics participating in the Hollywood Reporter's Preview Poll pronounced twentieth Century-Fox's "Tobacco Road," photographed by **Arthur Miller, A.S.C.,** the outstanding photographic achievement among the films previewed during February. Second place went to **Victor Milner, A.S.C.,** for his camera treatment of Paramount's "The Lady Eve," with third place going to **William Daniels, A.S.C.,** for Universal's "Back Street." The contest was again a virtual photofinish, especially as regards the runner-up positions. But one vote separated **Milner** and **Daniels** in determining the final showing.

You can't keep a good man down! The big news-story of the month is Paramount's decision to elevate **Ted Tetzlaff, A.S.C.,** to Director. **Ted's** richly-deserved promotion came as a surprise even to his closest associates—not that they doubt his qualifications, but that they had never heard him express a deside to direct, and assumed he was satisfied to remain as one of Paramount's ace Directors of Photography. His first assignment will be "World Premiere," the top-budget production of the Sol Siegel unit.. Congratulations, Ted!

•

The other day on the "Billy the Kid" set at MGM, someone made a crack to us about never printing his name in this department. We won't say who it was—but his name begins with S. Quite an alliterative troupe, that, by the way, what with Director of Photography **Len Smith, A.S.C.,** technicolor ditto **Billy Skall, A.S.C.,** and Operative Cinematographer **Charles Salerno,** all trying to beat the Hughes-Toland version of the same story to release!

•

Looks as though Warner Bros. are trying to corner the market on outstanding production and aerial cinematographers for their Technicolored "Dive Bomber." They've signed **Bert Glannon, A.S.C.,** as Director of Photography, and inked both **Elmer Dyer, A.S.C.,** and **Charles Marshall, A.S.C.,** to insure top-flight air-flight air-shots.

•

Peverell Marley, A.S.C., celebrates an anniverstary with completion of Twentieth Century-Fox's "Miami." It's his 75th production as Director of Photography. In addition to being a good cinematographer, he must be a good one to work with, for five members of his crew, including Lee Crawford, Irving Rosenberg, Billy Abbott, Al Thayer and Eddie Pelzolt, have been with him continuously since 1924.

•

March seems to have been a bad month along Gower St. Down at RKO, **Merritt B. Gerstad, A.S.C.,** yielded to the flu for three days while **Harry Wild, A.S.C.,** batted for him on "Tom, Dick and Harry." Up at the other end of the street, at Columbia, **Al Siegler, A.S.C.,** did the same thing, and **Henry Sharp, A.S.C.,** kept "Senate Page Boys" rolling.

•

George Barnes, A.S.C., draws the assignment to photograph Alexander Korda's "Illusions."

•

Add defense notes: Universal's **Johnny Fulton, A.S.C.,** is down in San Diego making backgrounds for the coming Abbott-Costello laugh-fest, "You're In the Navy Now." And **John,** you know, is a leftenant in the Navy Air Reserve.

•

J. Arthur Ball, A.S.C., reports an inaccuracy in last month's story about **Ray Rennahan, A.S.C. Arthur** rises to remind us that he and **A.S.C.-Prexy John Arnold** also had a hand in photographing "Toll of the Sea," 'way back when Technicolor was a two-color pup. We're sorry!

•

Charles Lang, A.S.C., gets the assignment to film "Nothing But the Truth" for Paramount.

•

If you read last month's review of **Ted Sparkuhl's** film "The Hard-boiled Canary," don't be misled. Paramount suddenly decided they had a good picture on their hands, and are releasing it under the original title, "There's Magic in Music."

•

Max Fabian just finished "Watchdog of a Nation," Carey Wilson miniature for MGM.

•

Art Lloyd, A.S.C.,—where's that picture of Butch?

•

George Meehan, A.S.C., filming "The Officer and the Lady" for Columbia.

•

Earnest Haller, A.S.C., directs the photography of Warner Bros.' "Manpower."

•

John Alton, A.S.C., takes time out from his "Dr. Christian" duties to film "Forced Landing" for Paramount's two Bills—Pine and Thomas.

•

Dewey Wrigley, A.S.C., off to Miami for backgrounds of Paramount's "Nothing But the Truth."

•

Joe August, A.S.C., draws the plum of lensing William Dieterle's first RKO production, "A Certain Mr. Scratch."

•

Oliver T. Marsh, A.S.C., is assigned to photograph MGM's latest remake of "Smilin' Through." We can't recall any film which, through successive remakes, has had the attention of greater photographic talent. As we recall it, **Gaetano Gaudio, A.S.C.,** did one version with Norma Talmadge, and **Wm. Daniels, A.S.C.,** one or two more with Norma Shearer. With **Ollie** added to this aggregation, it makes an uncommonly distinguished camera crew!

•

Strange, what California does to people. Back before the industry moved west, all the boys were angling for assignments to Florida location-trips about this time of year. But here's **Eddie Linden, A.S.C.,** doing just the reverse. We hear he actually declined an offer to do a picture in Florida. California Chamber of Commerce please note!

•

We can thank columnist Jimmie Fiddler for a new twist on the old argument over the merits of black-and-white and color movies—and one which gives a national break in the Fiddler column to two A.S.C. members. It appears, so he says, that monochrome adherent **Leon Shamroy, A.S.C.,** and Technicolorist **Ray Rennahan, A.S.C.,** were arguing the matter on the "Great American Broadcast" set. Finally **Leon,** to prove his point, had Alice Faye parade past a group of extras, then asked them what color were her eyes. Not a one could tell. "There, that proves my point that color isn't important!" exulted **Shamroy.** "Not a bit," replied the quick-witted **Rennahan,** "just look at her costume!"

Fred Mayer, A.S.C.

The camera profession suffered a loss in the sudden passing of **Fred Mayer, A.S.C.,** on March 7th. A long-time member of the American Society of Cinematographers, and associated with the Metro-Goldwyn-Mayer Studio at the time of his death, **Mayer** is survived by his mother and a sister. To them the A.S.C. and its members extend their most sincere sympathy. **Fred Mayer** will be missed by all who knew and worked with him.

•

Herman A. De Vry

As we go to press we are saddened by a message informing us that **Dr. Herman A. De Vry,** pioneer designer of cinemachinery and one of the truly "grand old men" of the industry, passed away suddenly on Sunday, March 23rd. **Dr. De Vry's** connection with the industry began in 1913, and among his achievements may be listed the invention of the suitcase-type 35mm. portable projector, pioneering in the building of both 35mm. and 16mm. sound projectors, and the development of the famous 35mm. hand-camera which bears his name. To his son, William C. De Vry, and to his associates at the De Vry Corporation, our heartfelt sympathy.

THROUGH the EDITOR'S FINDER

THIS year's Academy Award for "special-effects" raises a question in our mind and, we believe, in the minds of a majority of the camera profession. Briefly, that question is: *for what sort of "special-effects" achievement is that Award given?*

We've talked with a number of the Directors of Special-process Photography who were members of the committee which determined that Award. All of them expressed more or less amazement at their committee's decision. Some of them frankly told us that they had voted for a different production, one in which they felt the achievement in special-effects photography was greater and more significant.

But the membership of the committee included not only photographic experts, but also recording engineers and Art Directors. These men, looking at the nominated sequences with an eye (and an ear) to achievements in their own fields, did not see eye to eye with the photographic members of the group. Accordingly, we see a production in which there was acknowledgely outstanding special use of sound, and special set-construction, but which from the photographic point of view, while excellent, was none the less inferior to some of the other nominations, given an Award which, in the minds of the industry and the general public, is synonymous with outstanding achievement in special-effects *photography.*

The actual phrasing under which the Academy's special-effects Award was set up states, we realize, that it is given for outstanding achievement in the special-effects use of sound and photography, so in the strictly technical sense, the Award has probably been given correctly. But in a broader sense, we wonder if this set-up does not make for injustice to all concerned. Sometimes a special-effects sequence may combine outstanding photographic effects and outstanding special-effects recording, as was the case with "San Francisco," winner of a few years ago. But in general, outstanding achievement in the visual field does not by any means always imply that the accompanying use of sound may be equally outstanding—and by the some token, outstanding special effects-sound does not necessarily have to be accompanied by correspondingly noteworthy photographic effects.

It seems to us that trying to judge special-effects work under the present system, where photography and sound are considered together, must inevitably work an injustice on either the sound or the picture achievement. Would it not be better—and vastly more fair—to provide separate Awards for special-effects photography and special-effects sound?

We fully realize that the number of present Academy Awards classifications has grown so much of late that it is in danger of becoming unwieldy. Clearly, there must be a limit to the number of these Awards if they are to continue to mean anything. But our industry is big enough to recognize outstanding achievement in production sound and photography and should in justice to the men involved, and to the Awards themselves, recognize that special-effects achievements in sound and in picture are two distinct entities, and as such entitled to *individual* recognition.

WHEN an important major production is released, the critics usually reward the Director of Photography with complimentary phrases, terming his work "georgeous, "breathtakingly beautiful," and so on. When on the other hand, the industry's less important films are previewed, the critic, if he acknowledges photography at all, usually dismisses it briefly with the comment that it is "adequate," "standard," or some equally innocuous phrase.

Yet frequently the man in charge of the less pretentious production has, in his way, achieved more greatly than the man on the highly-publicized super-special. All too often he has heart-breaking conditions with which to contend. He seldom has new sets; instead, he must make remodelled old ones look new, concealing the fact that the same set has appeared previously in at least one "A" production and probably many a "B." He often has limited facilities as regards equipment; we've known of cinematographers who have incurred the displeasure of "B-picture" producers by insisting on half-a-dozen "snouts." And always he is fighting the clock. Where his fellow on the big picture, shooting perhaps half-a-dozen set-ups per day, can take the time needed to produce perfection in every detail and effect, he must make from thirty to fifty or sixty set-ups per day, and every minute spent in polishing lighting, or moving props or walls to permit more effective camera-angles is considered so much valuable time wasted.

Directors of Photography Unique Artists-Executives!

THE Director of Photography or First Cinematographer is a creative artist, functioning in an executive capacity—unique and irreplaceable! This is not the statement of the writer, the A.S.C., or any of its officers—though this has been the Society's contention for more than two decades—but the considered opinion of official representatives of labor organizations which during recent years have previously taken the exactly opposite stand, holding that Directors of Photography or First Cinematographers were in the same category as other members of the photographic staff, save, perhaps, as regards salaries and conditions, and should be so considered.

But during the closing week in March, at an official hearing before the Wages and Hours Division of the United States Department of Labor, these gentlemen repeatedly stressed the fact that the work and responsibilities of the First Cinematographer or Director of Photography are essentially different from those of his photographic crew. They testified that the Director of Photography or First Cinematographer was the creative artist of the photographic staff—a professional man, an artist and an executive, and as such, to borrow the favorite phrase of studio contracts, "unique and irreplaceable," and therefore not within the provisions of the Wage and Hour Act.

We would like to thank these gentlemen who so very recently held such different views for the excellent way they have summed up the status of the Director of Photography or First Cinematographer. What we have been saying for more than twenty years, they now say for us, and make it a matter of court record. We appreciate the compliment.

PHOTOGRAPHY OF THE MONTH

THAT HAMILTON WOMAN!

Alexander Korda Production, United Artists' Release.

Director of Photography: **Rudolph Maté, A.S.C.**

Special Sequences photographed by **Edward Linden, A.S.C.**

In many ways, "That Hamilton Woman!" is the finest work Director of Photography Rudolph Maté, A.S.C., has yet done. Covering an extremely wide range of settings and dramatic moods, Maté's visual treatment of the film combines the fine sensitiveness of the true artist and the technical skill of the thorough craftsman. It should definitely enhance his professional stature.

To this reviewer, the most appealing thing about the production was the way in which Maté repeatedly dared to do the unconventional where it would heighten the emotional effect being portrayed. This is brought out within the film's first few hundred feet. Conventionally, the photo-dramatic mood of a production is usually established at the start of a film, and any changes thereafter are approached slowly and cautiously. But in "That Hamilton Woman!", Maté opens the film with an introductory sequence treated with sombre, low-keyed lighting, soft shadows and greyish diffusion — and then, entering the story proper, suddenly switches to a much higher key, stronger contrasts and a crispness which bespeaks almost complete abandonment of diffusion. Under many conditions, such treatment would seem simply slipshod camera-work: but in this instance, it definitely highlights the emotional transition of the story.

Maté's diffusion technique throughout is interesting. Much of the action is filmed with little or none, and when the story's growing undercurrent of tragedy begins to demand it, diffusion (and of a different type to that used in the introduction) is introduced so subtly one is seldom if ever conscious of it. In several sequences, too, it may be noted that Maté reverses the customary procedure of glamorizing the feminine star with diffusion, and making the male star more virile by its absence: he diffuses many shots of Laurence Olivier and leaves undiffused the intercut scenes of Vivien Leigh! The effect — unconventional as it may seem — is strangely interesting and appropriate.

His treatment of lighting is equally daring. The familiar saying that a great cinematographer is paid more for shadows than for highlights is beautifully exemplified here. Repeatedly Maté carries out the cast shadow-patterns used on the sets to add both realism and pictorial appeal to the faces of his principal players. And he is never afraid to allow his stars to appear in deep — sometimes almost opaque — shadows. It is an interesting thing to note that both of the stars each have at least one dramatically important scene in which the principal player's face — and sometimes his or her form, as well — is hidden from the audience in shadow. One of Vivien Leigh's most important scenes, for example, is played in a two-shot with Olivier. Both are facing the camera. He is speaking, but it is *her* scene: her reaction to his words is the vital element. But although she is nearer the camera, and facing it, her face is almost completely lost in the shadow; all that can be seen is a faint outline, with a suggestion of glistening eyes. Ordinarily, this might be termed poor camera-treatment: in this case, it is exactly the reverse, for it gives the audience full opportunity to *imagine* her reactions — to visualize them mentally, and so doing, to idealize them, making the scene doubly powerful dramatically. In addition, this treatment conserves the dramatic power of the star, for playing the scene thus, leaving it so greatly to audience-imagination, in the later scene, in which she learns of Olivier's death, she can face the camera with confidence of not having spent her histrionic strength in the earlier scene.

In other scenes, Maté again uses shadows for excellent effect, as in one in which he has Miss Leigh in a broad, heavy shadow, revealing first one profile and then the other in cameo-like highlight as she turns, first away from and then toward her lover. A great deal must be said in commendation of Producer-Director Alexander Korda, too, for having the artistic appreciation to permit such photographic unconventionalities which, even though on the screen they do much to enhance the picture, must inevitably have seemed risky business in the actual shooting.

Maté's camerawork and lighting, too, did much to enhance the splendor of the rich settings provided by Award-winning Art Director Vincent Korda and his associate Lyle Reynolds Wheeler.

The credit extended to Edward Linden, A.S.C.— "special sequences"—is so broad as to be a bit ambiguous, especially in view of crediting Lawrence Butler, a non-photographer, for "special effects," but in view of Linden's acknowledged skill with miniatures — as witness "King Kong," "Last Days of Pompeii," and many others — we're inclined to assume that this work was Linden's special contribution. Certainly, "That Hamilton Woman!" makes more extensive use of miniatures than any film we've seen in many months. And they are for the most part excellent miniatures, too. The movements of the British fleet, and particularly the Battle of Trafalgar, are suggested in much greater detail than we would have thought practical under present conditions, for ship-miniatures are expensive luxuries. In "That Hamilton Woman!" they are used in remarkable profusion and, with the exception of one or two shots, to very excellent effect. The projected-background scenes, unfortunately, do not all fare so happily. Especially in some of those aboard the battleship, neither the definition or perspective of the background are as well coordinated with the foreground as would be desirable. It should be mentioned, however, that the use of backings — especially those of Naples and Vesuvius—is uncommonly fine.

THE MAN WHO LOST HIMSELF

Universal Production.

Director of Photography: **Victor Milner, A.S.C.**

Special-effects Photography: **John P. Fulton, A.S.C.**

To the photographically-minded, this production might well be titled "The Cinematographer Who Found Himself," for in it the work of Director of Photography Victor Milner, A.S.C., "finds itself" in brilliant fashion. For many years Paramount seemed to have a virtual monopoly on the making of highly-polished comedy-dramas, thanks to the redoubtable team of Director Ernst Lubitsch and Director of Photography Victor Milner, A.S.C. With the dissolution of this team, Milner carried on to receive one Academy Award and nomination for several others; but to this writer, at least, there seemed to be something missing from much of Milner's later work: it lacked the indefinable "Milner touch" which had so perfectly complemented the "Lubitsch touch" on so many memorable productions. Part of this was no doubt due to the scarcity of suitable vehicles for this particular treatment; part of it must, too, have been due to the necessity for adapting himself to the vastly different photo-dramatic requirements of teaming with DeMille.

But in "The Man Who Lost Himself" the "Milner touch" again emerges — and what a welcome reappearance it is! Not that "The Man Who Lost Himself" is photographically spectacular; it is the exact opposite — a production so perfectly photographed that one is all too likely to forget photography entirely while enjoying an evening's diverting entertainment. But beneath all this is camerawork so smoothly brilliant that at every step it enhances the dramatic values of the production — lighting that lends sparkle to each scene and line, coupled with an extremely subtle diffusion technique which maintains all the brilliance of visual mood without stressing brilliance to the point where it becomes harsh and out of key.

Feminine star Kay Francis in particular should owe Milner a debt of gratitude for what he has achieved in this picture. It would be ungallant to remind the lady how long it has been since the days when she was the epitome of feminine glamour on the screen — but it has been a long time, as pictures go. But with the exception of a couple of shots in which direction and dramatic requirements placed both the star and the man at the camera at unreasonable disadvantage, Milner has photographed her in such a way that you cannot help remarking how little toll the years have taken. And there are some close-ups of her — especially the close shots late in the picture as she plays the piano — when you mentally chide the hero for being so chivalrously slow on the uptake.

The special-effects photography of John Fulton, A.S.C., is no less notable. The early sequences of the film establish Brian Aherne's dual-role characterizations with some of the finest split-screen shots seen in a very long time. There are all too few of these shots, for they are done so smoothly and convincingly that it is a pleasure to watch them. In one, by the way, Fulton appears to have caught something of the tongue-in-cheek insouciance which characterizes the rest of this breezy film: he painstakingly establishes a shadow across the table at which the scene is played — and just as you are beginning to feel that this conceals an illy-matched matte-line he fools you by having one character lean well across what you thought must be the dividing line between takes!

His other special-process contributions were excellent, though it must be admitted one wishes he could have had one more angle to use as background for the chase sequence in the concluding minutes of the picture. The settings of Art Director Jack Otterson are, as usual, worthy of commendation, as is the film-editing of Milton Carruth and the musical scoring of Charles Previn.

THAT NIGHT IN RIO

Twentieth Century-Fox Production (Technicolor).

Directors of Photography: **Leon Shamroy, A.S.C., and Ray Rennahan, A.S.C.**

Twentieth Century-Fox seems to be developing an individual technique of turning out standout Technicolor musicals. "That Night in Rio," the latest of these, is from the strictly photographic viewpoint the finest of the lot. Directors of Photography Leon Shamroy, A.S.C., and Ray Rennahan, A.S.C., have in bringing this film to the screen topped their Academy Award-nominated achievement on the previous "Down Argentine Way."

Photographically, "That Night in Rio" is a delight. For sheer Technicolored pictorial beauty it has seldom been surpassed. Rennahan and Shamroy have taken the uncommonly fine sets provided by Art Directors Richard Day and Joseph C. Wright and the costumes of Travis Banton, and by means of skillful color-lighting and composition have made them into a thrillingly beautiful picture. There is scarcely a single scene in the production which is not an outstanding example of pictorial composition.

The various night-club sequences — especially the opening and closing ones — gave Rennahan an opportunity to exercise his penchant for projected color-lightings, which he has done with extremely interesting effect. Many of the other sequences make use of color-lighting to excellent effect, too, although on a more restrained scale. Among these may be mentioned the surpassingly lovely scenes in Alice Faye's bedroom, in which the warmer tones of unfiltered inkies outlining the bed, in the soft gray set, provide fascinating compositional effects.

On the other side of the ledger, some defects must be admitted. In her earlier scenes, Miss Faye, for example, shows all too plainly that even the combined skill of Shamroy and Rennahan cannot fully offset the effects of the ill-health which had forced her withdrawal from her previous assignment to "Down Argentine Way." From the opening of the party sequence, however, the directors of photography seem to have gotten the situation more clearly in hand, as her appearance thereafter was quite satisfactory. The problem seems to have been complicated, too, by a none too attractive coiffure. The other players suffered to some extent from inconsistent make-up, with a correspondingly uneven facial rendition. This was particularly noticeable in some of Don Ameche's scenes, though some of these might conceivably have been caused by an unsuccessful attempt to bring a blush to his manly visage by means of inadequate projected color.

In one long series of otherwise excellent close-ups of Alice Faye, as she sings in the cafe bar, the composition is definitely harmed by the presence in the extreme background of an extra woman in a too strongly blue gown which, even though extremely out of focus, is still a sufficiently strong tonal intrusion to distract the eye from the star's face; a softer-toned gown — gray or pastel blue — would have been far preferable. It also seemed to this reviewer that this scene would have been more effective if made with a lens of shorter focal length which would have given a more natural depth of field.

The dual role played by Don Ameche involved three split-screen shots, none of which are any too-well executed. The first one, it must be said, is one of the worst seen in a long time; it is extremely crude, and the matte-line is so obvious a child could notice it. The second is slightly better, while the third—the concluding scene of the film — is adequate, but by no means on a par with the quality camerawork of the rest of the production. Even allowing for the added complication of special-effects work in a three-film color process, these three shots are so inferior as to harm the production. It would seem, too, as though more camera-wise planning of the script could have taken advantage of the possibilities of projected-background process work for some of these dual-role scenes, permitting one character to "cross" the other and thus avoiding the rather stilted effect of the ordinary split-screen action involved. The treatment of the handshaking between the two Ameche characters — played in individual medium-shots — is also rather too obvious. On the other hand, the single projected background the film contains — the brief sequence in the airport office — is quite good.

All told, "That Night in Rio" is a picture no one interested in the pictorial possibilities of Technicolor should miss.

I WANTED WINGS.

Paramount Production.

Director of Photography: **Leo Tover, A.S.C.**

Aerial Photography by: **Elmer G. Dyer, A.S.C.**

Transparency Process Photography by: **Farciot Edouart, A.S.C.**

Special Photographic Effects by: **Gordon Jennings, A.S.C.**

At the start of "I Wanted Wings," a separate title-card is used to give the four-starred photographic credits of the production. And nowhere has such recognition of the Cinematographer's achievements been more richly deserved. "I Wanted Wings" is tops among air films not because of an excellent cast, excellent direction and a more than ordinary good story for such a production, but because of the achievements of the men at the cameras, their uncredited associates and crews. Without the superlative technical and artistic skill these men have put into their work, the production could never have been brought to the screen.

Director of Photography Leo Tover, A.S.C., had a difficult and thankless assignment in this one. In a production of this nature, with settings largely restricted to severe Army barracks, hangars and the like, and the action and characterizations largely of the rugged, masculine type, pictorial photographic opportunities are extremely limited— and the aerial shots are likely to steal the show, anyway. But Tover's work stands up under critical examination. His set-lightings are realistic and, wherever possible, pictorially effective as well. His treatment of the players is excellent, especially in regard to the male players, to whom he gives virile photographic treatment without going to the extreme of giving them exaggerated "character" lightings. He does very well indeed by both of the film's two feminine players, though it must be admitted that Veronica Lake's make-up is a handicap to his efforts. His crew also deserves commendation for their execution of the rather unusual number of dolly-shots, interior and exterior, in the film. "I Wanted Wings" displays some of the smoothest operative and assistant camerawork we've seen from Paramount in some time.

The aerial camerawork of Aerial Specialist Elmer G. Dyer, A.S.C., is in many ways his finest achievement. From start

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BELL & HOWELL'S
First Professional Sixteen

By WILLIAM STULL, A.S.C.

FOR a number of years rumors have been rife that one or both of the two major firms which have between them made virtually all the 35mm. cameras used in Hollywood's studios were turning their attention to the creation of a truly professional 16mm. camera. This has been especially true of Bell & Howell, already firmly established in the substandard field with a line of outstanding 16mm. cameras for amateur and semi-professional use. For the past two or three years increasingly specified rumors emanating from Chicago have indicated that Bell & Howell's first professional sixteen was proving sensational in tests, and would soon be on the market.

Today, that camera has finally arrived. While the Chicago firm is discreetly silent as to future plans and production, the first experimental model of the Bell & Howell professional 16mm. camera has been under test by several major studios and is now owned by Harry Wayne McMahan, the well-known commercial 16mm. producer and head of United States Motion Pictures, of Burbank, California. And it is definitely the outstanding news of the season for serious users of 16mm. It is the first substandard camera this writer has seen which throughout follows professional 35mm. practice rather than conventional 16mm. practice in design and construction. It is definitely a modern studio camera, with all the refinements and precision construction of a professional 35mm. camera, designed and built for 16mm. film.

The heart of any camera is its intermittent movement. This one is provided with two, which may be used interchangeably. The first is for microscopically accurate registration in the silent filming which forms such a large part of present-day direct 16mm. commercial production. The second is a silenced movement for use with direct-recorded sound.

The silent-picture movement is in brief a miniature of the famous Bell & Howell cam-and-shuttle pilot-pin registering movement which for more than thirty years has been acknowledged as the epitome of accuracy in 35mm. registration. In most conventional film movements the film slides through a polished channel and is moved downward between exposures by a pair of fingers which move forward to engage the film's perforations, then move downward to move the film as requisite, and finally disengage, leaving the film motionless for the exposure while the fingers move in an upward arc to return to their original position for the next cycle. In some designs, the film is held in place during exposure merely by the pressure of a spring-tensioned side-rail along one edge of the film, pressing it against a fixed rail on the opposite side, or by a spring-tensioned pressure-plate which may or may not act intermittently, forcing the film against the aperture-plate in front. In other designs—especially in 35mm.—intermittently-operating registering-pins slide into the film-perforations to hold it accurately in place during the exposure.

In the Bell & Howell cam-and-shuttle registering intermittent movement used in the new professional sixteen, the film is threaded between two intermittently-operating registering shuttle-leaves. These leaves control the film at all times, releasing during the take-down to allow the film an absolutely free travel. At the start of the take-down cycle, the shuttle moves the film straight back, impaling two perforations on the take-down claws, and then releasing tension. The take-down claws move straight down, moving the film with them. At the bottom of their travel, the shuttle again grips the film and moves it straight forward, impaling its perforations on two fixed registering-pins, made of tool-steel and shaped with microscopic accuracy to fit the perforations precisely. These pilot-pins, together with the registering-leaves, hold the film in place during the exposure with absolute accuracy and flatness. Meanwhile, the take-down fingers move straight upward—not in an arc—to return to the starting position for the next cycle, when the registering-leaves again bring the film back to them. This intermittent is very simply operated: a tool-steel yoke, riding a heart-shaped cam on the camera's main driving-shaft, operates the up-and-down movement of the take-down fingers, while a cam roller, riding a cam-slot in the same shaft, actuates the register-leaves.

While this movement is one of the most accurate ever devised for moving film in a cine-camera, it is not the quietest, though it must be stated that the present 16mm. version appears to run more quietly than do many major-studio 35mm. cameras when out of their blimps. To provide for sound use, however, a more conventional movement is provided. This is interchangeable with the shuttle movement, and provides the conventional spring-tensioned pressure-plate and claw-type pull-down.

The camera itself is roughly box-form in shape, with the familiar professional-type outside film-magazines. An unusually large four-lens turret is provided at the front, so amply proportioned that 3 or 4-inch lenses may be left mounted on the turret when using a 15mm. wide-angle lens, without interference.

The focusing arrangement is unusually interesting. The lens-turret is carried on an L-shaped casting, the lower member of which forms the base of the camera-head. Within this L the camera-box proper is mounted, sliding laterally on a ball-bearing slide. When a release-button is pressed, the head slides easily to the right, bringing into place behind the lens a focusing magnifier, mounted on the camera-door, and carrying at one end a ground-glass focusing screen in precisely the same focal plane as the film. The magnifying system permits viewing the image on this focusing screen in professional fashion, erect and laterally correct. Adjustable magnifying units permit either a moderately-enlarged full-frame image, or for precision focusing, a highly-magnified image of the central portion, as is the practice in most 35mm. studio cameras. The eyepiece is adjustable to the individual eye. The rack-over movement is perhaps the most easily operated this writer has seen.

The operating controls are conveniently grouped at the rear of the case. These controls include a manual control for the 170-degree shutter, frame and footage counters, and buttons controlling the automatic shutter-dissolve. With this fitting, making a fade or dissolve in 16mm. is at last as easy and accurate as in silent 35mm. practice. To fade out when the camera is running, all that is necessary is to press the fade-out button, and the shutter automatically closes in 1½ feet of film; when it is closed, a brake is automatically applied and the motor disconnected. To complete a lap-dissolve, the button releasing the brake is pressed, the motor reversed, and the film is quickly wound back to the starting point. At this point, the motor is again switched to 'forward,' and the fade-out is made by simply pressing the fade-in button.

Two driving motors are at present used with the camera; both are mounted at the top of the case on the right-hand side. The first is a variable-speed motor for "wild" or silent shots. It operates on either 110-Volt Alternating Current or from batteries, and runs either forward or backward. The second is a 110-Volt synchronous motor for use while making double-system direct-recorded sound. A third motor may also be fitted, as the right-hand side-plate of the camera may be removed and any standard 35mm. motor fitted in place, driving the camera's stop-motion shaft. Normally this shaft extends through the side-

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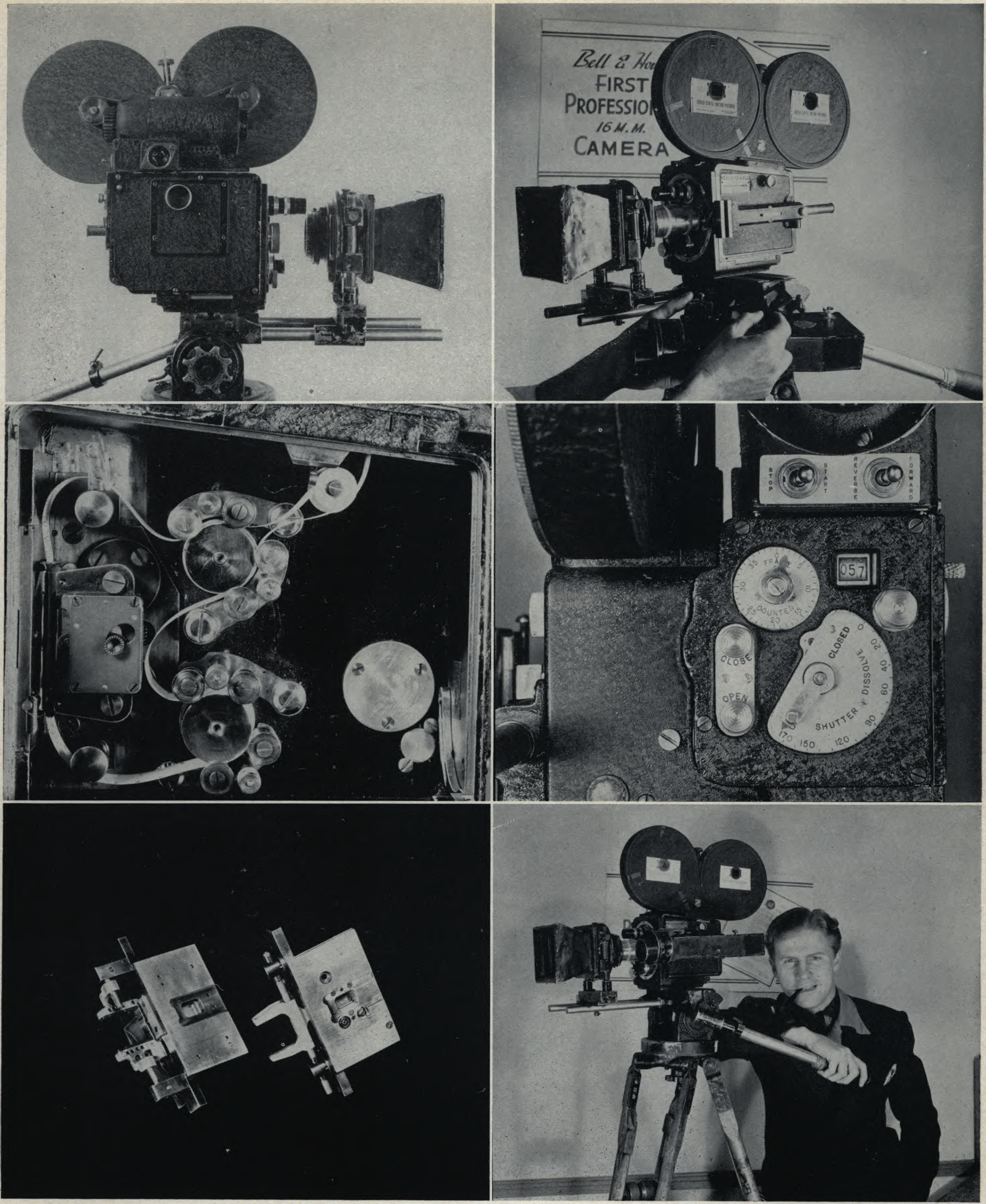
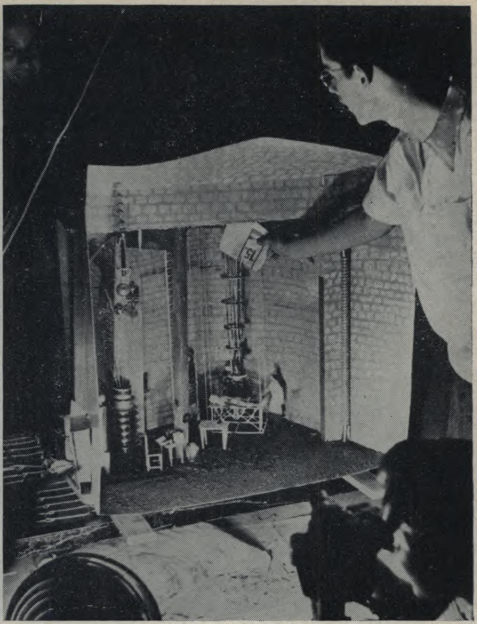


Bell & Howell's first Professional 16mm. camera. Top: right and left-side views of the camera. Middle, left, interior, showing pilot-pin movement; right, grouping of controls at rear of case. Bottom, left, the two movements; sound-movement at left, pilot-pin movement at right; bottom, right, the camera and its owner, Harry Wayne McMahan.



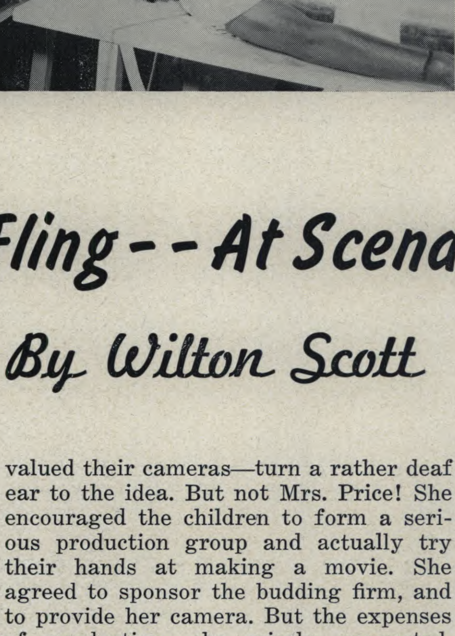
Youth Has Its Fling--At Scenario Production

By Wilton Scott

AMATEUR movie-making is generally admitted to be "a young man's game"—but down in Texas there's a group of movie-making amateurs for whose activities some new and super-youthful adjectives ought to be coined. Officially they call themselves Pixilated Pictures (not incorporated), and though they have no less than five successful scenario productions to their joint credit, not a single member of Pixilated's production staff is yet old enough to cast his (or her) first vote! None the less, for five years these youngsters have operated a thriving 16mm. production company, turning out productions which not only gave them recreation and a constructive outlet for their energies, but in every instance repaid their production-costs and usually a small profit besides.

It all began back in March, 1937, in the back-yard of Mrs. E. Humphrey Price, of San Antonio, when a group of children whose ages ranged between 10 and 13 years got together to stage a neighborhood show. Apparently the show was successful. At any rate, it so intrigued Mrs. Price that she brought out her 16mm. camera and filmed several of the "acts." When in due time the film came back from the processing station and was previewed to an enthusiastic young audience, she discovered she had a band of aspiring movie-makers on her hands.

Now most adults, faced with such a situation would — especially if they valued their cameras—turn a rather deaf ear to the idea. But not Mrs. Price! She encouraged the children to form a serious production group and actually try their hands at making a movie. She agreed to sponsor the budding firm, and to provide her camera. But the expenses of production, she wisely suggested, should be taken care of by organizing a real company and raising the necessary money by the stock-selling route. In this way, the costs of production could be divided among the youngsters participating, incidentally giving them useful training in modern business principles.



PIXILATED PICTURES

CONTRACT

THIS CERTIFIES THAT Paul Meaders

has received the part of Fritz, the hunchback in Pixilated Pictures film production "FRANKENSTEIN",

which will start on September 1, 1939 and will probably be finished by February 1, 1940.

At the beginning of this motion picture the signer must deposit in the treasury $ 1 .50 , to insure the safe participation of the signer in the above mentioned production. If the signer is duly notified as to the location of the shooting of the picture but fails to appear $ 0 . 25 will be deducted from the original sum, or if he is not prompt $ 0 . 10 will be taken from the money deposited. When the motion picture is completed, the remainder of the money will be returned.

The signer must also agree to sell two adult's and two Children's tickets to both the premier and one subordinate showing of the said production.

In compensation for the above, Pixilated Pictures will pay the signer a salary of $ 1 . 00 at the end of the production.

This contract expires as soon as all retakes are finished and it cannot be broken while the said motion picture is in production.

This contract is valid only if it is completely signed below.

SIGNED: Paul Meaders

SIGNER'S PARENT: Mr. Meaders

APPROVED BY:

PRODUCTION MANAGER: Glenn Alvey Jr.

DIRECTOR: W. M. Meader

PRESIDENT: Howard Hudson

A typical Pixilated Picture Contract. Note penalties for non-appearance and tardiness.

With these necessary details out of the way, preparations were started for the first production. Glen Alvey, one of the boys who from the start has been a leader in Pixilated's activities, wrote the script, choosing that favorite among horror stories, "Dr. Jekyll and Mr. Hyde." To everyone's surprise, this first venture into production was a success—so much so that it not only repaid its cost, but enabled the company to declare a dividend of 100% on its stock, and issue more at double the original price.

Since then, these young folk have produced five complete features. Included among them are the original "Dr. Jekyll and Mr. Hyde," released in June, 1937; "It's Laughter We're After," in December of the same year; "Hollywood Ho!" in 1938; "Snazzy Sixteen," in 1939, and "Frankenstein," in 1940. In addition, the group has made local 16mm. newsreels to round out the supporting bills at the showings of their features, and at one time even ventured into the commercial field, filming a 100-foot advertising short for a local dancing teacher.

Most ambitious of Pixilated's productions has been "Frankenstein," the production-cost of which ran over $100—but which, it may be added, still made money, so widespread a reputation have these young producers made in their city. Like most ambitious productions, Pixilated's "Frankenstein" brought with it plenty of technical problems to trouble its young producer-director, Glen Alvey. For example, there was the matter of the "Monster's" make-up. Even in Hollywood, where professional make-up experts have almost endless technical resources, a horror make-up of this type is an out-of-the-ordinary problem. Imagine it, then, looming before a group of high-school youngsters in Texas!

Naturally, the "Monster's" make-up had to be something similar to the one made famous by Boris Karloff, in the 35mm. professional version of the same story. But—how to do it? As the youthful actor who was to portray the "Monster" didn't particularly resemble Karloff, the foundation of the make-up had to be a mask. Yet it mustn't look too much like a mask; it must move naturally with the wearer's face and jaw-muscles, and let the expressions show through. They'd have given a lot for a supply of the celebrated plastic make-up material that professional Jack Dawn uses to create MGM's monsters, but of course none was available.

Several attempts were made at making the mask from papier-mache and paste, but these were failures—too stiff and "masky" looking. Finally Glen called into consultation Adrian Hines, a local taxidermist. With his help, a successful mask was finally made. A wax impression was made of the face of Henry Dielmann, Jr., who was to play the "Monster." From this, a plaster cast was made. Then upon this cast, the final mask was made of flexible rubber, modelling the outer surface into the desired contours with still photographs of Karloff's make-up for a guide. In this way, the inner surface was shaped to fit the face of the young actor who was to wear it, the outside molded into shape as the "Monster's" face, and there was enough flexibility so that the "Monster" could register a reasonable range of facial expressions. Stringy black goat-hair was used to make a wig. This mask make-up was, it must be admitted, a bit hot to wear—especially when making interior scenes under a battery of Photofloods—but it was convincing.

Other technical problems in the making of "Frankenstein" were solved by the youngsters in true Hollywood fashion. For example, there was the laboratory used by "Dr. Frankenstein" for his attempts at synthesizing life. Two complete sets were built for this. The first was built full-size, and located outdoors, where the photographic light was more plentiful—and free. In this set the living actors "did their stuff" for the closer shots.

But for the longer shots, especially the sequence in which the "Monster" was brought to life, a carefully-built miniature set was used. This contained accurate reproductions of the weird scientific and electrical equipment used by the doctor in his experiment, a minia-

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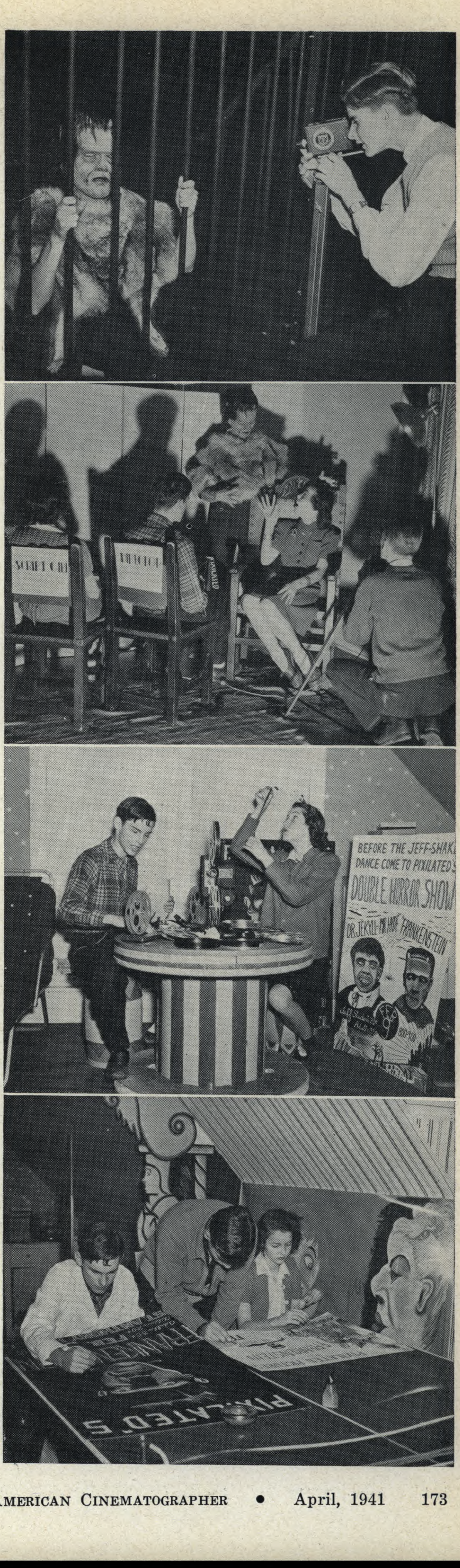
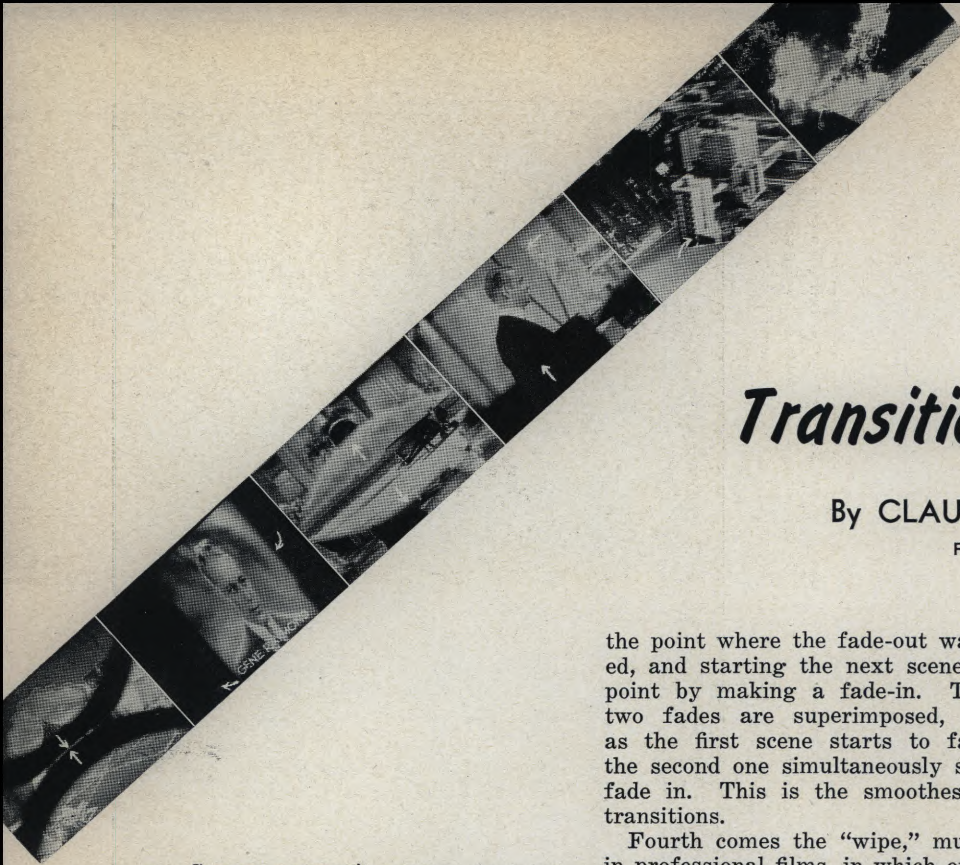
On opposite page: left, 'Production still' from Pixilated's version of "Frankenstein", Henry Dielmann, Jr., as the Monster, Edith Jarrel as the frightened heroine. Center, scene in the laboratory of "Dr. Frankenstein" (Glenn Alvey) as he fashions the monster. Right, miniature set of the laboratory; Producer - director Alvey straightens the lift, while cameraman Jack Locke lines up his camera.



Top, shooting a close-up of the Monster; upper middle, Pixilated Pictures troupe in production; lower middle, Producer-director Alvey and his assistant, Babe Price, editing "Frankenstein"; bottom, Pixilated's Art Department—Glen Alvey, Russell Bertsch and "Tish" Walker, who design and build sets and posters. All photos from Three Lions.



Transitions and Tempo

By CLAUDE W. A. CADARETTE,

Founder, L. A. 8mm. Club

As soon as movie scenes start trying to tell a connected story-idea to audiences, we come up against the problem of making transitions to bridge the mental and pictorial gaps occasioned by changes of place, time or action. These transitions should be so smooth as to fit imperceptibly into the flow of the pictured action. At the same time, each transition should be directly proportionate in tempo and abruptness to the change of thought it bridges; that is, quick, abrupt transitions should be used between scenes closely related in time, place or action, while slower and smoother transitions should be used between scenes between which there is a greater change of thought.

Fortunately, the professional moviemakers have developed a regular language of transitions, and since many of these are mechanically adaptable to 16mm. and 8mm. filming, we amateurs can—if we will—take advantage of them and add this professionalizing touch to our own films.

Basically there are four—maybe five—fundamental types of movie transitions. First and simplest is the direct cut, made by simply splicing one scene after another. It is the quickest, and also the most abrupt. Next come the fade-out and fade-in, in which the picture gradually fades out to complete blackness, or the reverse, as the case may be. This is slower and much more positive. It can be made in several ways: by slowly closing (or opening, for a fade-in) the lens or shutter as the scene is shot; by using a graduated "fading-glass" filter or, if the fade is to be made after the film is processed, by applying "Foto-fade." Third comes the lap-dissolve, in which one scene blends smoothly into the next. This is made by shooting a fade-out, then rewinding the film to the point where the fade-out was started, and starting the next scene at this point by making a fade-in. Thus the two fades are superimposed, so that as the first scene starts to fade out, the second one simultaneously starts to fade in. This is the smoothest of all transitions.

Fourth comes the "wipe," much used in professional films, in which one scene apparently seems to push the other off the screen. These are made professionally with an optical printer, and are rather too complicated for most amateur use, though they can be done if one has a camera equipped with a windback and one of the "wipe" gadgets commercially available.

Finally there is the "whirl," which isn't used very often, but which can, as Robert Teorey showed in his prize-winning 8mm. film, "The Golf Widow," often be a good substitute for the "wipe." On the screen the effect is that the whole world suddenly does a tailspin—and when it stops spinning, it is on a different scene. All that is necessary is to have a camera-mount which permits you to whirl the camera along the horizontal center-line of the lens. End one scene with a whirl like this, and begin the next with a similar one. Then splice the two together at the top of each: the scene will usually be so blurred at this point that the cut won't be detectable.

But the mere mechanical ability to make these transitional effects isn't enough to assure good transitions in your picture. It is necessary to study the places and reasons where they'll be used. The transitions have got to coordinate with the changes of place, time or action they bridge or they have failed their purpose, and merely disturb, instead of help, the rhythmic flow of the picture.

If, for instance, you were to splice scenes of Yosemite next to views of the Washington Monument, you'd have a transition—but the change of subject-matter and locale would be too abrupt. The result would be confusing. You should either use a more gradual transition, or add a few scenes which will help you to provide a connecting link, and give a smoother result. When using a direct cut, the transitional subjects must be very closely related, because if the change of ideas is too abrupt, the minds of the viewers can not readjust themselves to the change in such short periods of time. Consequently, if you are using direct cuts to complete a change of thought in the minds of the audience, you are treading on thin ice unless you have carefully studied your scenes and edited the film extremely well.

The simplest way to transfer your audience from one time or place to another is by the use of the fade-out and fade-in. In this manner, you completely blank out the first subject matter and fade-in to new ideas, subjects and localities. Don't, however, use this method except at the start and close of a complete sequence. Otherwise you will disconnect your subject-matter and break its continuity. A fade-out, like a period, instinctively informs the audience that the sequence has ended, and if the same subject-matter is again used after the fade-in, the continuity is muddled and broken.

It must be remembered that the speed of your fades will affect the tempo of the picture, and as a result, the transitions should have the same tempo. It would be incongruous to insert slow fades in a fast-moving picture, or quick, short ones in a slow-moving picture.

In many instances, when the sequences are closely related, and the subject-matter is separated only by the element of time, the fades are better replaced by lap-dissolves which give a smoother change of thought. As an example, to quickly portray the ageing of a person, a series of lap-dissolves can be used through which the person is seen constantly becoming older and grayer. With this type of subject, you can age the person any number of years with a minimum amount of film, yet if you were to attempt this by direct cutting of each scene, the impression would not be effective at all, as the change from youth to old age would be too great.

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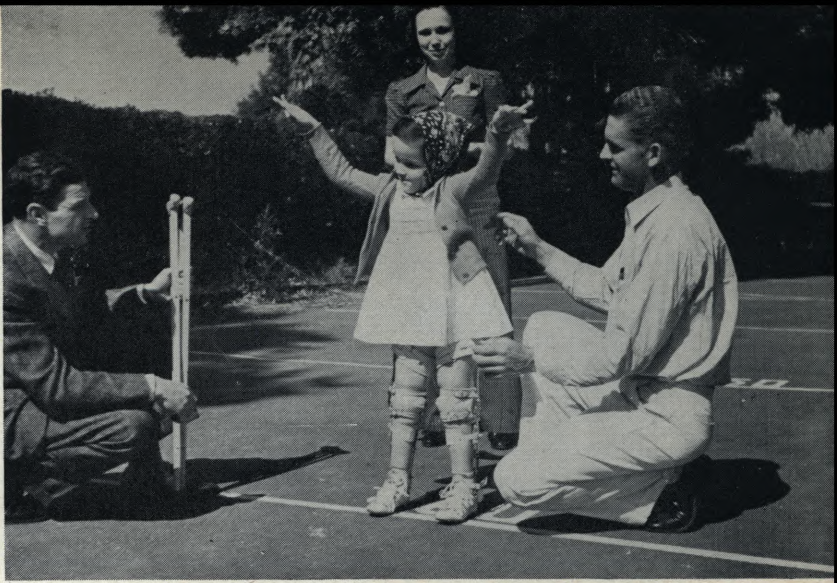


Her first step! Scene from one of Dr. Berry's film-studies of his pupil's progress.

Teaching Cripples To Walk With 16MM. Movies

By LITA HIEBERT

THERE are few Academy Award motion pictures more dramatic or thrilling than the eleven miles of 16mm. film owned by the Milton Berry School for Paralysis in Encino, California. This internationally known school which teaches victims of paralysis to walk again, to talk, to feed and dress themselves, even to dance and drive cars possesses some of the most remarkable motion pictures ever filmed.

Through the system of photographing each student upon his enrollment, the school has, during the last dozen years permanently recorded on film the miraculous corrective feats they have performed with more than 2000 pupils.

Twelve years ago the Milton Berry school purchased an Eastman motion picture "Model K" camera with an f:3.5 lens and which handles 100-foot reels. Although the lens has since been changed to an f:1.9 to make possible the taking of pictures under more difficult lighting conditions, the camera is still in excellent condition and has been used regularly.

In 1936 the school purchased another Eastman motion picture camera — the new Model A Magazine-type. This camera has proved indispensable in making the rapid changes from black-and-white to Kodachrome which are so often necessary in this work.

An important feature of this Magazine camera is the slow-motion regulator, usually set at 64 frames per second which permits Mr. Berry and his staff of instructors to analyze in detail the "gait" pictures of the paralyzed students.

Inasmuch as no two cases of paralysis are identical, it follows that no two students at the school receive the same corrective assignments. These assignments are based upon a thorough knowledge of the body muscles and their resulting body-actions in a normal and pathological condition. It is through the medium of slow-motion pictures that each movement of the paralyzed individual is scanned, analyzed and broken down as he moves across the screen.

The slightest incoordination of movement in the gait of these victims of paralysis is immediately detected on the film and the correct physical maneuvers assigned to adjust the pathological condition.

This study of motion and locomotion in paralyzed conditions was begun about 40 years ago by the late Dr. Milton H. Berry and is called "Patho-kinesiology." When broken down into syllables the word has the following connotation. "ology" means study of, "kinesis" or "kinetic" means movement, "Patho" means abnormal. The word in its entirety, therefore, means the study of movement in abnormal conditions. It is from the portion, "kinesis" that the word cinema, applied to motion pictures, likewise had its derivation.

Although infantile paralysis has been the most widely publicized type of paralysis, there are other types not so generally known. Of these, "Spastic" paralysis, caused by some injury at birth, is one of the most common. Regardless of the fact that victims of spastic paralysis are usually told they will never walk or become physically independent, the Milton Berry school is disproving this daily by teaching these individuals to stand and walk alone, to dress and feed themselves. It is the only place in the world where this remarkable work is being done.

Another classification of paralysis is the "Broken back" division. This includes victims paralyzed as a result of industrial or motor car accidents. There are in this country thousands who wrongly believe they will have to be confined to a lifetime in bed or a wheelchair, thousands who should be told that they could learn to walk again.

Through the Milton Berry Foundation, which has been created by philanthropic individuals and organizations, many paralyzed individuals in need of financial and physical help will soon be able to receive the benefits of this famous corrective program. The "March of Dimes" is also making it possible for 75 victims of infantile paralysis to attend the Milton Berry school.

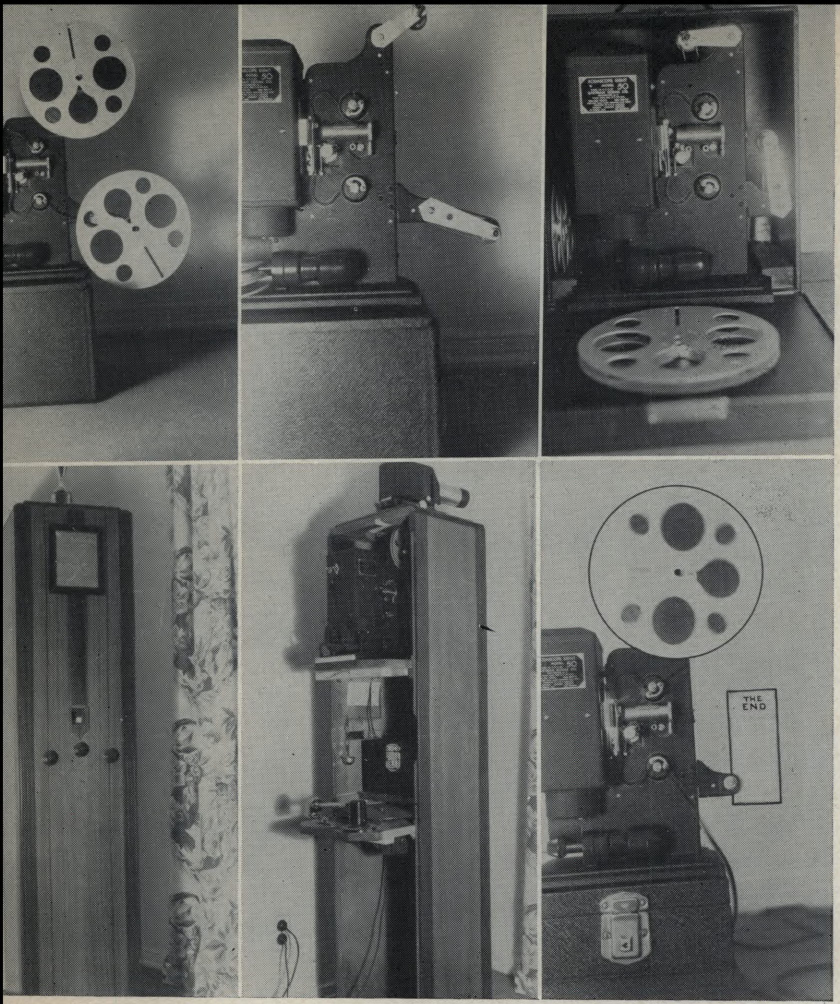
Motion pictures are being taken constantly of the students in action so that a regular check-up can be made on their progress. These complete records are carefully indexed and labeled, and through a card file which runs back over the last dozen years, the record of any student can be brought out at moment's notice.

Most outdoor pictures are made on the partly shaded, tree-bordered patio of the school where classes are conducted daily. In shooting these Kodachrome films, however, the matter of lighting usually presents a problem because the pupil, to exhibit his manner of walking to the best advantage, must emerge from the shadowy portion of the patio-ramp into the sunlight, walking a distance of about 100 feet. These shots are made with all shadowy parts taken with the Magazine Cine-Kodak at f:5.6. As the subject then emerges into the full sunlight, the diaphragm is stopped down to f:11.

Most indoor shots are also made with the magazine-type camera, using indoor Kodachrome again to obtain best results. These shots are made with 2500 watts of illumination and with the aperture opening set at f:2.8.

Because 98% of all the students who have attended the Berry school have been told by others that nothing much could be done toward rehabilitating them, it is impossible to overestimate the im-

(Continued on Page 195)



Gadgets That Smooth Home-Movie Projection

By ROBERT W. TEOREY,

L. A. 8mm. Club

POSSIBLY the greatest improvement to 8mm. home movie projectors in recent months has been the lengthening of reel arms to permit the use of 400-foot capacity reels. This, of course, doubles the projection time obtained with the standard reel and permits a lengthy show to be put on with less interruption.

Picture presentation is usually the culmination of a long period of cinematography, editing and titling and the manner in which your films show up in screening is the test to which your efforts must always be subjected. Therefore, a more continuous projection of your films will more readily hold the concentration of your audience and their enjoyment and interest will be far greater through lack of interruptions.

This can easily be appreciated when it is realized that half the stops for interchange of full reels are done away with. Thus, the confusion attendant to snapping on lights, reel exchange, etc., is minimized. Few 8mm. films run longer than 200 feet. Thus by mounting the film on a single 400-ft. reel the story continues to be flashed on the screen where with the 200 foot reel an intermission would be necessary during which the thread of the picture might become hazy or lost. Even though the latter might not occur, any break in smooth projection is an unwelcome feature of the entertainment.

Although it is easy enough to purchase any number of the new 400-foot 8mm. reels on the market, it is not quite that easy to use them with most of the projectors now in use. The chief difficulty lies in the shortness of the reel arms on these older projectors. This can easily be rectified with most projectors employing a spring belt take-up drive in much the manner I adapted my Model 50 Eastman.

At the dime store I bought a pair of 15-cent hinges of the type commonly used on garage doors. I measured the exact length of extensions required; then using a small hacksaw, I cut the ends from the longer elements of the hinges as follows: Supply-reel extension, 2¾ inches in length; take-up reel extension, 4¾ inches in length.

The lower extension must be longer in order to permit the large-size reel to drop below the line of the projection lens. This also places the bottom edge of the reel below the level of the projector base and during projection the machine must be placed either on the case (figure 1) or on the edge of a table or stand.

My next step was to remove the reel-spindles and bushings from the projector-arms for mounting on my new extensions. Studying the make-up of these elements, I decided the easiest and quickest way to do this was to punch them out. Using a pointed punch and a small hammer, I readily drove the spindle-shafts away from and through the pulley wheels after which it was a small matter to draw the shafts from the bushings. A large flat end punch was used to drive the bushings out of the arms. In both these operations, the projector was laid on its side and the edge of a small wood block was placed under the arms near the shaft to gain solidity of these sections during the punching.

The next job was to secure the bushings to my new extensions. Screw holes already in the ends of each section were carefully enlarged to the correct diameter with a round file, and then the ends of the bushings were driven in place in each one. Tapping the slightly exposed end of the bushing projecting through the hole in the extension, I flattened the edges enough to fasten the two firmly together. Inserting the reel-spindles in the bushings, I next drove each of the pulley-wheels into place. A few taps with hammer and punch on the edges of the shaft exposed through the wheel-centers quickly made them a solid whole.

Assembly on the projector brought me

(Continued on Page 190)

THIS hobby of movie-making isn't by any means exclusively a man's sport. Just see how many wives and bachelor girls there are, both in and out of cine-clubs, who can and do go out with their 8mm. and 16mm. cameras and make movies just as good (sometimes better!) as those their husbands and boy-friends crow about so loudly! Of course, none of us objects to the pride our male competitors take in their films. But I think we girls have a right to complain about the way we're treated by the writers of home-movie scenarios! They all seem to be slanted to give Hubby and Junior the best breaks, with Mama or girl-friend taking what's left. So here's one written especially for my cinefilming sisters!

Photographed on Agfa film.

Scenario for Feminine Filmers

By Phyllis J. Zeh

L. A. 8mm. Club

MAIN TITLE:
WIFELY FOOTSTEPS THROUGH THE DAY

CREDIT TITLE:
The Cast:
Wifie
Helen, her friend
Tommy, Junior
Tom, Senior.

Scene 1: FADE IN. Medium long-shot from front porch. The postman enters and deposits a letter in the mail-box.

Scene 2: Close-up as a pair of feminine hands remove letters from mail-box.

Scene 3: Close-up on living-room table as same feminine hands deposit several letters on the table. On top of the pile is one addressed to Hubby, with prominent return-card "Blankville Cinema Club." FADE OUT.

Scene 4: FADE IN. Close-up of clock, with hands pointing to six.

Scene 5: Close-up of man's hands inserting key in door.

Scene 6: Close follow-shot of man's feet walking across room, stopping by table.

Scene 7: Close-up of man's hands picking up letters. A moment later the envelope from the cine-club, ripped open, flutters down.

Scene 7-a: Insert: notice of meeting from your Club. FADE OUT.

Scene 8: FADE IN. Close-up of calendar, showing date same as that given in meeting-notice. Pan over to clock, hands pointing to 7:45.

Scene 9: Close-up of Hubby, talking angrily.

TITLE:
"YOU KNOW IT'S MEETING NIGHT. WHY IN XX@*ZZ!! ARE YOU ALWAYS TOO TIRED TO GO? YOU DON'T HAVE TO WORK—YOU ONLY SIT AROUND THE HOUSE ALL DAY!"

Scene 9a: Same as Scene 9. Hubby finishes speaking and glares.

Scene 10: Close shot of wife, obviously tired out, and wondering why he doesn't see why.

Scene 11: (This can be double-exposed montage over Scene 10, if you wish) Quick flashes from several odd angles of a sink full of dishes, a washing-machine, brooms, dust-cloths, kitchen-stove, Tommy, Jr., reaching up for a sandwich, etc.

Scene 12: Long-shot. Hubby gets up, walks to door (camera following), puts on his hat, and walks out, slamming the door.

Scene 13: Medium close shot of Wifie, from the rear. In the background (if possible) show the door, just slamming. She droops forward over the table, puts her head in her hands, and cries.

Scene 14: Close-up of feminine hand ringing doorbell. She rings many times, then finally tries knob; door is unlocked; she opens it.

Scene 15: Same as Scene 13. Wifie is still crying. Helen enters, stands there and then rushes forward to her friend. They embrace. WIPE TO—

Scene 16: Close-up of Wifie, talking excitedly.

Scene 17: Close-up of Helen, looking sympathetic. Then she gets an idea and starts to speak.

TITLE:
"WHY DON'T YOU SHOW HIM WHAT YOU DO?"

Scene 18: Close-up of Wifie, puzzled. She obviously asks "How?"

Scene 19. Medium-shot of Helen. She looks left and points, clearly saying "There!"

Scene 20, Close shot of Hubby's cine outfit standing in the corner.

Scene 21: Close-up of Wifie. The idea begins to dawn on her, and she smiles in anticipation. FADE OUT.

TITLE:
(FADE IN)
AND TIME MARCHED ON—TO THE HUM OF A CAMERA.
(FADE OUT)

Scene 22: FADE IN. Angle-shot of Helen focusing camera. (Make short!)

Scene 23: Angle-shot of wifie's hands at dishpan. (Short flash.)

Scene 24: Angle-shot of Helen peering through finder. (Short flash.)

Scene 25: Close follow-shot of Wifie's feet walking across kitchen floor.

Scene 26: Close shot of kettle, steaming. (Short flash.)

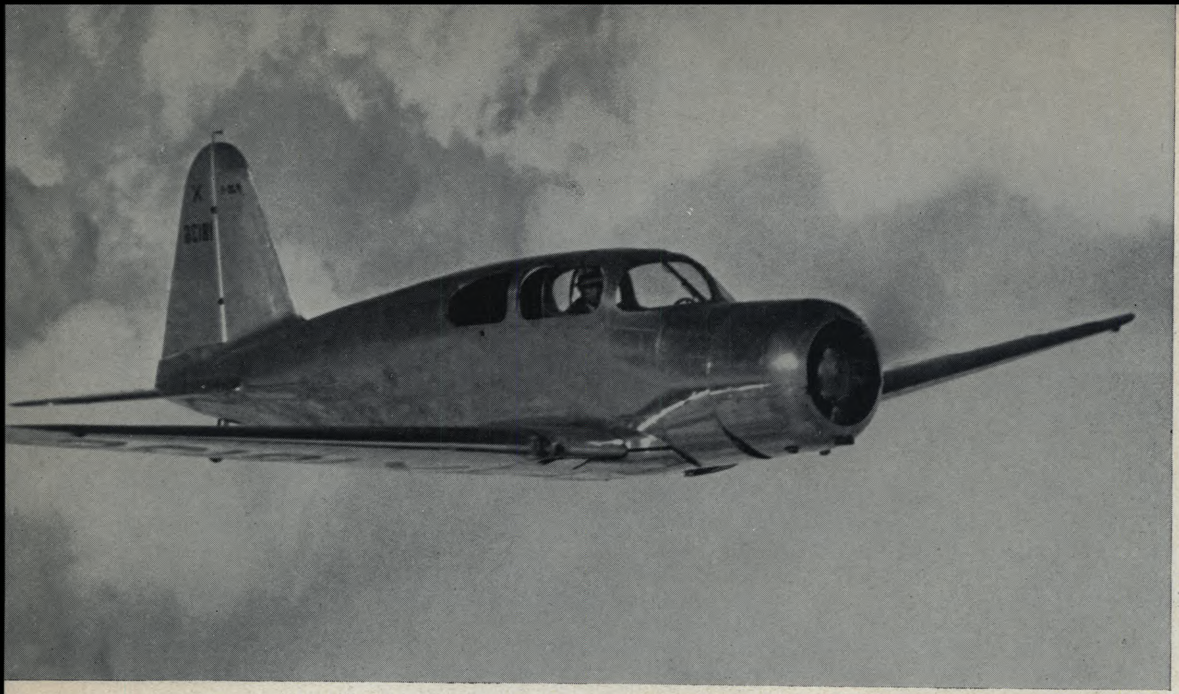
Scene 27: Close shot of Wifie's head, with steam coming up over it. (Short flash.)

Scene 28: Long-shot of Helen setting tripod in position.

Scene 29: Medium-shot of Wifie cutting out cookies, Tommy, Jr., helping her.

Scene 30: Close shot of broom sweeping, followed by close shots of Wifie's hands wielding it.

(Continued on Page 195)



Up In the Air with 8mm.

By JOHN P. FULTON, A.S.C.

FOR pictures that will make any home movie audience sit up and take notice, I can heartily recommend movies made from the air. Especially Kodachrome films, to which color often gives an almost three-dimensional effect. I've noticed that of all the films I've shown at home, the ones my friends seem to get the greatest enjoyment out of have been those in which I've combined my two hobbies of flying and shooting 8mm. And since I know that an increasing number of 16mm. and 8mm. movie-makers have opportunities to fly, either in their own planes or those of friends, or on trips in regularly scheduled airliners, here are a few of the things I've learned about shooting personal movies in the air.

It's entirely different from making studio air-scenes. Working professionally, you have your own camera-plane and pilot, and you can simply set your camera on its rigidly-anchored mount or tripod, and give all your attention to what you see in the finder.

But doing it as we cinefilming private pilots do, believe me—it's different! Sometimes I've been lucky enough to have a friend along with me who could take over the operation of plane or camera at the crucial moment (Mrs. Fulton resolutely refuses to have anything to do with either!) but all too often I'm the only person in the ship who can either fly a plane or run a movie camera. In that case, there's only one thing to do. First, make very sure your ship has plenty of good, empty air between it and either the ground or the ship you're photographing. Jockey it into position—and then let it fly itself while you and the camera cooperate on getting the scene. Modern planes can almost fly themselves—for a few moments, anyway!

Using my eight on the ground, I've often been rather disappointed that it made such short scenes. After all, five feet isn't much film when the baby is just beginning to do something cute. But up in the air it's different—and how! During the twenty-five seconds it takes to run that five feet of film through an 8mm. camera, your plane can do the darnedest things, especially if the air is rough. Sometimes I've looked up from the finder to discover that one wing or the other was disgracefully low, or that the ship was swinging itself in a graceful ten-mile-wide circle, or sometimes even climbing or diving embarrassingly! Yes, it's a case of grab your shot and then grab the wheel—quick—in the air!

Holding the camera is something it's easy to guess wrong on when you're shooting your first scene in the air. Most first-flight shooters, I've noticed, have a tendency to try to rest the camera, or their elbows, on some part of the ship, such as the window-sill or the arm of your seat. Don't do it: you will just pick up any vibration that may be coming from the engine, and pass it right on to the camera to make your pictures blurry. The best way, I've found, is to sit freely and comfortably in the seat, and hold the camera in your hands, clear of any contact with the ship. Your body acts as a shock-absorber, damping out most of the vibration. You can get things still smoother if you shoot at camera-speeds slightly higher than normal—24 or 32 frames per second, if your camera permits; even faster in bumpy air.

In my own Stinson cabin monoplane, when I want to shoot to one side or the other, I can simply roll the window down, just as you would in an auto. This is a good idea whenever possible, for no matter how clean and clear a glass window is, the result can't be as perfect shooting through it as without the extra glass to soften your definition.

However, in an airliner you can't roll down the windows, and it's really surprising what good results can be obtained from an airliner's cabin-window. Be careful, though, that you don't include in your field the irritating little metal studs you see in the windows of some airliners; the result will look as though a nice blob of dirt had come to rest in the middle of your camera's or projector's gate!

Shooting from a private plane, you can often get very interesting shots shooting straight ahead. Here again you can't roll down the windshield, and you just have to make the best of shooting through the glass. If your windshield is clean, and your engine properly maintained, so it doesn't throw oil, you can get very good shots this way. This sort of angle, showing a bit of the nose of your ship, and sometimes an occasional glint as the light catches the blurry disc of the propellor, often gives you more of an impression of actual flying as it gives your picture both foreground and distance.

The most important single matter in getting good movies from the air is correct exposure. I use a Weston exposure-meter all the time, and frankly, I'd hate to try to make air-movies—especially in Kodachrome—without it.

But even with this accurate photoelectric guide, there are tricks to the trade. For shots in which the camera is more or less horizontal, including a lot of sky and only a relatively minor portion of ground, with or without another ship in the shot, you can use your meter quite normally. But when you start shooting down toward the ground—look out! First of all, in making a shot like this, even if the camera is to include some sky and clouds, be careful that the meter doesn't get misled by the vastly higher relative reflective value of this part of the shot. And even in shots that don't include sky, I've noticed there's an almost invariable tendency to underexpose, even if you use a meter.

To offset this, I've developed a special technique of using my meter. It's unorthodox, and I've no doubt the meter-engineers will tell me plenty of reasons why it is theoretically most unsound. But it works. If you'll study the calculator-dial of your Weston meter, you will notice that in addition to the "Normal" arrow which you usually set opposite the light-value to get your exposure-reading, there are four other calibrations. To the left of that "Normal" point, you'll see two others, one indicating half-normal exposure, the other—marked "U"—indicating the point at which the darkest objects will be underexposed with most black-and-white film. To the right of the "Normal" calibration, there are also two extras: one marked 2x, indicating double normal exposure, and the other, far to the right and marked "O," indicating the extreme overexposure region.

When I'm shooting at the ground from a plane, I take my reading using this "O" marking. Thus if I get a light-value reading of 500, which would normally call for an exposure of f:11 with regular "daylight" Kodachrome, taking the reading with this "O" calibration would give me an exposure of f:4.5. This, I have found from many hundred feet of Kodachrome exposed in the air, will be about correct. The first time or two you shoot this way, you'll probably doubt your meter, and the method as well. But you'll find that your camera and your eye don't see things the same way; your eye can't compensate for the narrower angle of the camera's lens, or the generally darker and less reflective coloration of the ground.

Focusing is a simple matter in most air shots. Most 8mm. cameras, like my own Bell & Howell, have fixed-focus lenses. But even with eights and sixteens equipped with focusing lenses, you won't have many worries. Just set the focus at infinity for most shots, and you're all set to go.

Filtering is another place where you can go haywire in aerial filming, particularly in color. The Kodak people make a very nice "Haze Filter" for Kodachrome, and if you believe the instruction-books, you'd think an air shot was just the place to use it. I've tried it, and my personal advice is to leave your haze filter at home on the ground—or, better yet, take it up with you and carefully drop it from the plane's window! For one thing, that filter always tends to distort the color-rendering of your distance; if you feel you *have* to cut through the haze, a pola-screen is much better.

To avoid underexposure in shots like this, take your reading on the "0" calibration on your meter. On opposite page: a telephoto lens is best for making close shots of other planes in the air.

Moreover, to me, if the haze is there visually, it's part of the picture, and you want to bring it to the screen. I've frequently made aerial shots that were extremely effective *because* of the haze. Eliminate the haze, and you'd lose your picture! I remember one of them, for instance. I was flying back down to Hollywood from the Pacific northwest. The start from Seattle was delayed by exceptionally bad visibility and haze; but as soon as the field authorities permitted, I hopped in the ship and took off. Climbing away from the airport, I soon found myself flying above a blanket of haze, cut off from the whole world.

But before long, as I headed south, Mr. Rainier came into view, raising its 14,408-foot cone majestically above the misty haze. I whipped out the Filmo and made a shot of it in Kodachrome. On the screen, it is one of the most effective shots anyone could ask, for you see the mountain rising from a vague, misty foundation, aglow with the pearly light of the early-morning sun, and get precisely the same impression we got in the plane, actually seeing it. If you filtered out the haze, you'd kill the pictorial and dramatic value of that shot! And it's the same way with many another Kodachrome air shot. No, I say, in color, leave the haze in!

If you're shooting black-and-white, though, it's a different story. There, without the magic of color to aid you, there's often an advantage in cutting through the haze, and in using a filter to accentuate in your black-and-white picture the color-contrasts the eye sees. Generally, when shooting black-and-white in the air, I simply put an Aero 2 filter on my lens, and forget it until I land. Occasionally, when I want to accentuate contrasts, darken the sky, or penetrate a really strong haze, a red filter may be preferable. But for all-around aerial work, the Aero 2 filter is supreme; that's what it was originally designed for.

Incidentally, working this way in black-and-white, it is a good idea to set your meter so it will make allowance for your filter-factor automatically. Simply divide your normal film-speed rating by the filter-factor—and re-set the meter's speed-setting according to the result. From this new setting, the meter will automatically give you the correct reading for the filtered exposure.

The choice of lenses is another simple matter in the air. Most of the time, I simply use the regular 13½mm. lens on my eight, and that's that. It is by far the best for most normal air-shots; shooting downward or at distant scenery, you won't get much benefit out of a telephoto, and the narrower angle of the tele-lens will magnify every bit of movement in the camera, and (especially with the small finder-mattes on so many substandard cameras) will make it doubly a problem to keep centered on your shot.

On the other hand, if you are shooting another plane in the air, a telephoto lens is a real advantage. For one thing, it brings you closer to the other plane than could be possible any

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16 MM Home Movie Previews 8 MM

DOUBLE TROUBLE

Scenario picture; 400 feet, 8mm. black-and-white.

Filmed by **H. E. Ward, Jr.**

Speaking generally, very little criticism can be offered regarding this film, for it is excellent. Among these few, however, may be mentioned a definite need of more close-ups, especially where you are cutting in spoken titles. In a number of instances there is a bit of confusion as to which character is speaking the title. This can easily be eliminated by handling the cutting as was done in the silent days of professional movies. Begin with a close shot of the person speaking the title. Then cut in the title. After that, cut back to the shot of the person speaking, after which you can go to any other angles your action may require. Bear in mind here, too, that you can often save footage this way, for it is not necessary to show a person speaking *all* the words of his title; show him beginning to speak, and then after the title, finishing speaking. The audience will subconsciously feel that during the time they required to read the title, he was naturally speaking, and will so bridge over the actual gap in action mentally.

There is another fault in cutting this picture. That is that as you changed your camera-angles the action did not always match up well. For instance, in the last sequence where "Ann" is telling "Jack" what she thought of him, the cutting was such that she apparently spoke her lines twice in the different angles used. A closer match of the action in scenes like this would make them flow together more smoothly and convincingly, and save footage, too. Closer matching of action is just as necessary in going from one angle to another in the longer shots, too. You could also save some footage by tightening up exits and entrances, so you don't show too much of a blank scene before a character enters or after he leaves. The best way to cut such action is to cut an exit just as the character begins to step out of the frame, then cutting his entrance into the next scene with his figure well into the frame.

Another thing that can be suggested, too, is that you would have gotten a much better impression had you kept "Bruce," in his pursuit of "Jack" and "Ann" from the airport, always moving across the screen in the *same* direction —say from right to left, or always into the camera. This would give a continuity of motion which would give a much clearer impression that the poor fellow was trying to go from one place to another.

To a certain extent you have overdone the use of "Fadette" fades. As a general rule you will find that fades are best used only at the beginning and end of a sequence, and never within the sequence.

"Double Trouble" would also have benefited from the use of soft reflectors, and your players would have looked better had you exposed more for the shadow-sides of their faces. This can be done, especially in the closer shots where it is most necessary, by taking your reading with the meter held rather close to the actor's face, and well over toward the shadow-side.

On the whole, however, you are to be congratulated for having handled a none too easy scenario very well, indeed, and upon the fact that wherever you could—as in the roof-garden sequence—you have secured pictorially effective compositions.

BOOTS AND SADDLE

Vacation Film; 800 feet 16mm. Kodachrome.

Filmed by **Miss Agnes Marx.**

This film came to us with a note in which its maker distinctly apologized for her film, explaining that she had bought her camera very shortly before leaving for her vacation and this was, apparently, her first film. After screening the film several times, it seems to us she has nothing to apologize for, but instead a great deal of which to be proud. Recording a summer vacation spent on a Montana dude ranch, this film as completely captures the spirit of a vacation as any we've seen in a long time. Moreover, composition and exposure are uncommonly good; the latter, especially, is almost of professional evenness, despite the photographic hazard of cowboy hats, deep porches, and the like.

There are, indeed, very few criticisms which can be offered. First among these is a lack of close-ups. We would suggest that the next time the lady makes a vacation film, she personalize it more. In "Boots and Saddle," she carries herself through the vacation excellently: you see her leaving the city, and at frequent intervals throughout the picture, participating in the activities of dude ranching, and finally—in a very clever ending filmed in her eastern home—apparently dreaming of the pleasant Western vacation days. But we see her companions on the vacation only in long-shots. Of course, most of them are but chance-met fellow vacationers: but they were interesting to her, so they should be made more interesting, better-defined personalities to the audience. Close-ups will do it. This is especially noticeable as regards the proprietors of the ranch. She specifically mentions them in titles, but we never see them; we are never shown and told who they are.

> Part of THE AMERICAN CINEMATOGRAPHER'S service to its readers is individualized review and criticism of amateur movies by members of the A.S.C. In making these analyses, the reviewers make full allowance for the differences between professional and amateur cinematography in equipment and facilities, but recognize, too, that there cannot really be any double standard of judging cinematography: good photography is good photography, regardless of whether it is on 35mm., 16mm. or 8mm. film. It is their aim always to be constructive in their comments, especially to point out to the home moviemaker how he may utilize in his own filming the many little tricks of camerawork, lighting, editing, titling and direction which professionals have learned through long years of moviemaking, to the end that his films may be better, smoother and more graphic.
>
> In response to popular demand, we have decided to publish some of these criticisms, especially in instances where they suggest things which will be of benefit not only to the maker of the film in question, but to other home filmers as well. We invite all readers to send in their films for review.
>
> THE EDITOR.

The titles are excellently done in Kodachrome, with a strikingly appropriate western-motif background. However, we might suggest a slightly simpler style of lettering, which would be more easily read, or as an alternative, giving a bit longer footage to each title, to give the audience more time to read them.

Photographically, as has been mentioned, the film is excellent, especially as regards composition and exposure. However, there are several sequences which do not match the rest of the picture at all well in either color-balance, steadiness or definition. Since the film was made with a Magazine Cine-Kodak, and these sequences are of approximately 50 feet each, it seems probable each represents a single magazine-load. As regards the faulty color-balance, we can urge Miss Marx—or anyone going on a long vacation and planning to expose a lot of film—to follow professional practice. Always order your film ahead of time and make sure you get a supply *all* of which is of the same emulsion-

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AMONG THE MOVIE CLUBS

CALLING CLUB SECRETARIES!

This department of THE AMERICAN CINEMATOGRAPHER is *your* department. We feel that there is a great deal to be gained all around by making these reports of club activities available to other clubs and to independent cinefilmers all over the country. To that end, we ask all you club secretaries to consider yourselves special reporters for THE AMERICAN CINEMATOGRAPHER with the assignment to "cover" the activities and meetings of your club. Send us those reports as quickly as possible after the event has happened—and make your report accurate and prompt. Wherever possible, we'd appreciate getting reports of meetings that have actually happened, rather than of those that are scheduled to happen in the future, so that none of us will be embarrassed by reading that something is going to happen at such-and-such a meeting, only to find later that some switch in schedule made the actual meeting very different. And please — remember that printers and editors wait for no man—so get your reports in for the next issue by not later than the 20th of the month.

The Editor.

Los Angles 8mm. Club plays host to members of the Amateur Cine Clubs of Southern California. Left, Charles G. Clarke, A.S.C., during his demonstration of lighting; right, part of the audience of 400. Photos by W. H. Robinson, Jr.

So. Cal. Clubs Hear Clarke

Members of all the amateur cine clubs of Southern California were guests of the Los Angeles 8mm. Club at the Club's March meeting, held in the auditorium of the Southern California Edison Co., with a capacity attendance of over 400 enthusiastic 16mm. and 8mm. filmers, many of whom had travelled fifty miles or more to attend. A delegation of 40 members of the Long Beach Cinema Club attended en masse, arriving in specially-chartered busses; the Los Angeles Cinema Club had abandoned its regular mid-month Technical Meeting to take part in this joint meeting, and delegations from the three other clubs in Los Angeles proper, as well as clubs in Pasadena, Alhambra, Santa Monica, Santa Ana and other localities were present.

Chairman for the evening was Vice-President Foster K. Sampson of the Los Angeles 8mm. Club, who had arranged an unusually instructive programme dealing with movie-making under artificial lighting. The first speaker was W. H. Robinson, Jr., of the General Electric Company, who described and demonstrated his firm's Photoflood lamps, and how they may best be used. He was followed by Irving Andrews, of the Eastman Kodak Stores, who discussed films products.

The next speaker was A. Bernard Shore, of the Max Factor Make-Up Studio, who demonstrated the application of make-up, using Miss Edith Williamson as a most charming model.

The concluding speaker was Charles G. Clarke, A.S.C., a member of the Board of Governors of the American Society of Cinematographers and an outstanding Director of Photography with the Twentieth Century-Fox Studio. He gave a most interesting informal discussion of lighting, speaking from his experience not only as a studio cinematographer but as a 16mm. home movie maker. He followed this with a demonstration of lighting, using Victor floodlights provided by Winter, Inc., and Dinkie Inkies and Baby Keg spotlights provided by Bardwell-McAlister. Miss Williams was again the model. Clarke's demonstration concluded with the projection of a 50-foot reel of 8mm. Kodachrome showing similar lightings on the same stage and with the same model and lighting equipment. At the close of this he spent a considerable time answering questions from the audience.

The meeting concluded with a showing of the 16mm. sound Kodachrome film "Sailplane," made by James H. Love and John W. Love (see AMERICAN CINEMATOGRAPHER for February, Ed.).

BETTY BARNEY, Secretary.

Sioux City Sees A.S.C. Prize Films

The March meeting of the Amateur Cinema Club of Sioux City, Iowa, featured screenings of two Prize films from THE AMERICAN CINEMATOGRAPHER'S International Amateur Movie Contest. The films shown were "Prize Winner," made in 1937 by J. Kinney Moore, and "Early Summer," made in 1932 by Tatsuichi Okamoto, of Japan. They were most enthusiastically received.

EDWARD H. SIBLEY, M.D.,
Program Chairman.

New Club In Paterson, N. J.

A group of amateur movie enthusiasts from Paterson (N.J.) and vicinity have banded together to form a club known as the Paterson Cinema Club, Inc. The purpose of the club is to foster amateur movies and to bring together the individuals interested for an exchange of ideas and suggestions of how they can improve their technique. About four meetings have been held thus far. The Secretary of the new club is Irving Diamond, 130 Walnut St., Paterson, N.J., who states he would be glad to receive inquiries from any interested amateurs in his locality, and particularly "we would more than welcome correspondence from any other organizations interested in helping a new gang get going."

Philadelphia Elects

As the Philadelphia Cinema Club enters its sixth year of activity, it starts out under a new set of officers, elected at the Club's March meeting. The new administration includes B. N. Levene, President; George A. Pittman, Vice-President; William A. Brink, Secretary, and Robert R. Henderson, Treasurer.

Through the courtesy of the Eastman Kodak Co., a new form of ballot for use in judging films was explained, and an opportunity presented for its immediate use. The Club, departing from its former practice, has decided to include all films shown by its members at any meeting during the year in the Club's Annual Contest. A special committee headed by the Chairman of the Technical Committee will be charged with maintaining percentage records on every film shown. These will then be used in the final judging for determination of the Annual Prize Winners.

The film-feature of the March meeting was a 1000-foot 16mm. Kodachrome titled "Sagebrush and Saddles," made by Boyd Bernard and completely synchronized with sound. The majority of the film-rating sheets turned in gave

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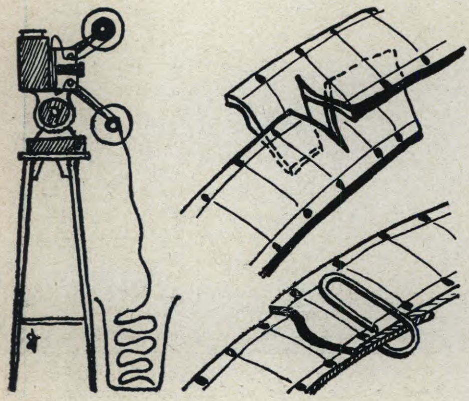
THE IDEA EXCHANGE

THE IDEA EXCHANGE is just what the name implies—the place where 16mm. and 8mm. cinefilmers can swap moviemaking ideas with the other fellow. The little improvised tricks you used to solve one of your cinemaking problems may be just the answer to something that's perplexing a fellow filmer—and one of his ideas may solve a problem for you.

To help out this exchange, THE AMERICAN CINEMATOGRAPHER invites you to send in descriptions of gadgets, tricks, shortcuts and methods you have used in any phase of home movie work—shooting, editing, titling, projecting, processing, and the like. If possible, send along a photograph or sketch to help make your description more clear to the other fellow. For every idea published in THE IDEA EXCHANGE, we'll give you two projection-reels and cans. Really unusual ideas will receive higher awards. When sending in your idea, let us know whether you shoot 8mm. or 16mm. to facilitate sending you the right equipment.



Emergency Splices

It's plenty embarrassing when your film breaks during projection. If you stop to fix things, there's an irritating interruption to your show; if you don't, the film runs down onto the floor and at least gets dirty, and sometimes stepped on. Here are some methods I've used in these emergencies.

The simplest thing is to have a good, clean wastebasket handy (preferably lined with soft, lint-free cloth!) so in case of a break you can simply slip it under the projector and let the film feed down into it. They used to do that in professional theatres, by the way, in the early days before they put take-ups on projectors.

Another good safeguard is to have two or three small paper-clips (smaller than the width of your film) handy. Use a clip to temporarily join the broken film-ends together. Often, if you catch the break promptly, you can clip the ends this way with little or no interruption, even in the dark.

A third method is to slit the broken film-ends as shown in the sketch, joining them as shown.

A fourth method is to have on hand several strips of Scotch tape narrower than the film and about half an inch or an inch long. Placed lengthwise over the break in the film, this makes a fine emergency splice, and one that will go through the projector, too.

GEORGE GREY.

Color Titles on Snow

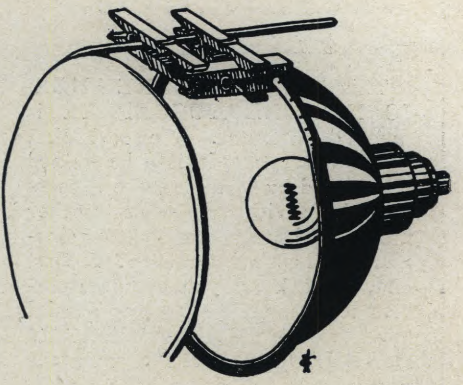
Looking around for a title-idea to fit a Kodachrome snow picture I'd made, I hit on this idea which worked out well. I took a sheet of heavy cardboard and made a stencil from it, cutting out the letters I wanted for my title. Then I placed this cardboard stencil on a flat area of snow.

Next, I filled a "Flit-gun" with water-color paint of the desired color (I used orange) and sprayed the stencil with it. The stencil kept the paint from reaching the snow except where the letters had been cut out. There, it went through and colored the snow to form colored letters against a white background.

When I carefully lifted the stencil from the snow, I had my title all ready to shoot: a flat expanse of white snow with colored letters.

This idea lends itself to all sorts of modifications. You can pan up or to one side, going directly from the title to your action, or from action to title. Or you can "fade out" on your title by shooting the desired footage of the word, and then sprinkling snow on it until the letters are concealed. If you use 16mm., as I do, you can get the opposite effect by shooting this way with the camera upside-down. When the film is processed, turn it end for end in the reel, and you'll get the effect that the snow flutters away and leaves the lettering exposed.

MARTIN MILLER.



Diffuser For Lamps

If you'll study professional movies, you will see that most shots are made with the lamps illuminating the actors softened down with diffusers. Unluckily for us amateurs, there haven't been many diffusers made to use with our Photoflood lamps. But anyone can build himself a set very easily.

Take a length of galvanized-iron wire and from one end make a hoop at least as big as the front of your lamp's reflector; a little bigger is even better. Then bend the surplus wire straight back, as shown in the sketch.

To provide the diffusion, fasten onto the hoop whatever diffusing medium you wish—tracing-cloth is good, so are white silk, ground cellophane, and the like. Each has a different character of diffusion, so it's a good idea to make up several for each lamp.

You fit the diffuser to the lamp as shown in the sketch, with three spring-type clothespins. One is attached to the top of the lamp's reflector, and the others, at right angles to it, grip both it and the extended straight wire from the hoop. Be sure and mount your diffuser an inch or more in front of the reflector, so there will be room for ventilation. Otherwise the heat of the lamp is likely to char the diffusing-screen.

For shooting tricky light-effects in Kodachrome, make up similar gadgets using colored cellophane instead of the usual white diffusing medium.

SOL. J. COHEN.

Title For Sport Films

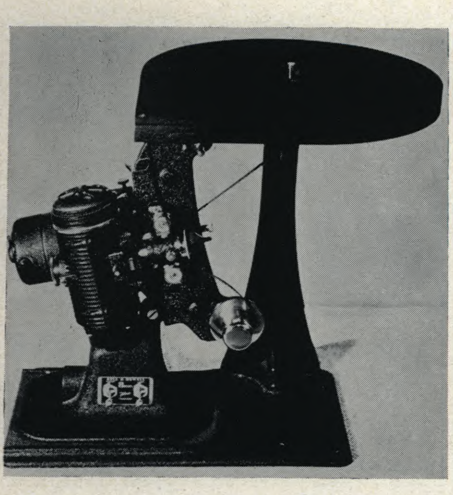
Cinebugs who make movies of such sports as tennis, baseball or golf can make themselves some eye-catching main and end titles by using this trick I recently employed. Take as many balls as there are letters in the words you want in your title. Letter each ball with one of these letters.

Then, for the simplest effect, just set the balls on a flat surface, arranging them so the lettered balls spell out the words, and shoot your title. It's best to light the balls with a single lamp, from one side. This makes them look rounder.

If you shoot 16mm., you can have the balls "animate" in to form the words themselves. Just shoot with the camera upside-down, and when you've shot enough, jiggle the table or card the balls are on—very gently, mind!—and the balls will slowly roll away. When the film is reversed end-for-end, this gives a shot in which the balls roll

(Continued on Page 196)

...THE SHOWCASE...



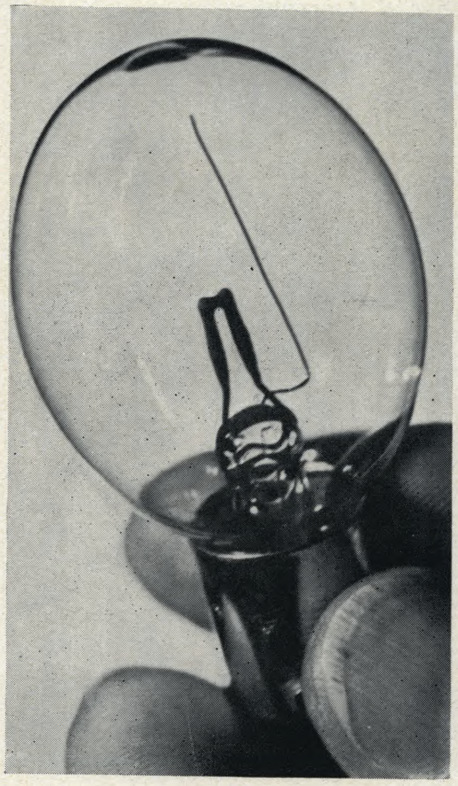
8mm. Continuous Projection

A continuous-run film magazine having a capacity of 1000 feet of film, which may be attached to any 8mm. projector, is offered by the National Service Company of Hollywood. Trade-named the "Readyview Projecto," it is stated to be the first continuous-projection attachment commercially made for 8mm.

The device consists of a simple base upon which any 8mm. projector may be placed. Extending upward from this base is a supporting column at the top of which is mounted the film-magazine. This magazine contains 1000 feet of 8mm. film, spliced to form an endless loop. Within the magazine, the roll of film lies on its side, supported by radially-positioned knife-edge bearings which, it is stated, permit the roll to revolve with the minimum of friction and at the same time eliminate the complications of roller-supports. The film is fed to the projector from the outer edge of the roll, and fed in again at the center, passing at these points over relieved, plastic rollers. It is stated that at no point in the device is anything in contact with the emulsion-surface of the film.

The endless loop of film extending from the magazine is threaded through the projector in the usual manner, looping over a special bakelite flange fitted over the take-up spindle. The manufacturers state that the tension of the film at the projector's feed sprocket is no greater than when an ordinary feed reel is used, and that film has been continuously projected for weeks at a time with no appreciable injury.

Magazines are quickly interchangeable, being removed from the supporting column by the removal of a single screw. Using the magazine's full 1000-foot capacity permits an hour and a quarter's continuous projection, at the end of which the original starting-point has again returned to the projector, ready to be shown again. The device, which sells for $39.50, is stated to be particularly adaptable for such business uses as displays in stores and offices, convention-booths or exhibits, sales or educational meetings, and the like, while the use of 8mm. film instead of 16mm. should reduce costs of film and equipment notably, and open an entire new field for commercial substandard films. The manufacturers further hold that the device has some applications in home filming, as well. A 16mm. model is reported also under test and nearing manufacture.



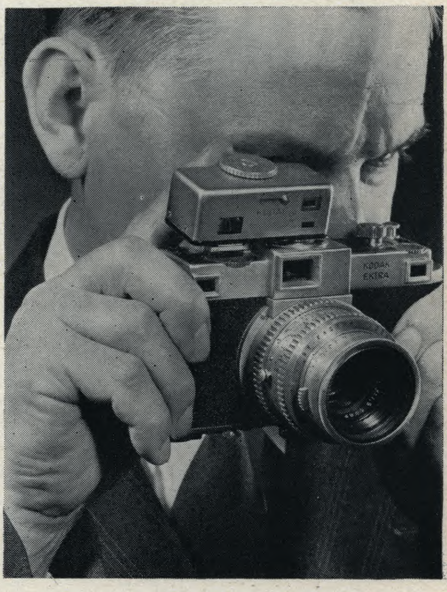
G-E Speed Midget

Development of a new and revolutionary photoflash lamp producing a flash so brief as to freeze moderate motion and so fast as to greatly simplify synchronization was announced by General Electric's lamp department at Nela Park. It is called the G-E MAZDA Speed Midget Photoflash Lamp SM, or for short: the "SM".

Unlike other types of photoflash lamps, the G-E SM lamp employs no aluminum leaf, free wire, or shredded foil within its bulb. Instead, a small amount of chemical paste applied to the ends of the lead-in wires (in an atmosphere of oxygen) produces the SM's rapid flash.

Although the SM has the same shape and size as that of the popular G-E mighty midget No. 5 flash lamp, it comes to peak of flash in 1/200th of a second, lives its entire life in only 1/100th of a second.

The new source produces only about one-fourth as much light as does the G-E No. 5 midget bulb. Nevertheless, the SM's flash has been found to be ample when used with the improved films now available.



Ektra Accessories

Six accessory items for the new 35mm. Kodak Ektra—including a special flash synchronizer, ground-glass focusing back, view finders for high, low, and right-angle work, a close-work range-and-view finder, and a special tripod clearance head—are announced by the Eastman Kodak Company, Rochester.

The accessory Close Range and View Finder is intended for use with the 50mm. Kodak Ektar f:19 lens at distances from 3½ feet down to 1½ feet; and with the addition of the Kodak Portra 3+ supplementary lens, down to 10½ inches. Its features include a single eyepiece for range and view finder, automatic parallax correction, a vernier scale for distances shorter than 1½ feet, and an internal mask which is slid into place when the Kodak Portra 3+ lens is used. The price is $40. This accessory can also be obtained, on special order, with a specially-calibrated focusing dial for use with the 50mm. Kodak Ektar f:3.5 lens.

The High-Low Angle Finder permits the Kodak Ektra to be used conveniently from waist-level when used on a tripod or other firm support, as well as overhead—thus greatly extending the

(Continued on Page 199)

16mm. BUSINESS MOVIES

Sixteen millimeter commercial filming has long since outgrown the experimental stage and become a legitimate and highly-specialized field of professional cinematography. The technicians in this field stand definitely apart both from the 16mm. amateur and from their 35mm. professional fellows. But it has been our experience that these men who are so earnestly striving to build a new field of cinematography welcome comments of a professional and technical nature upon their work, and how it can be improved.

To meet this need, this new department of THE AMERICAN CINEMATOGRAPHER is being inaugurated. We see many 16mm. commercial films in the course of our work, and have almost invariably been asked for frank criticism. We propose to give that criticism written expression here. We will welcome opportunities to review and analyze any such films made by our readers.

THE EDITOR.

IN ALL THE WORLD

1400 feet, Kodachrome, Sound.

Presented by Great Northern Railway.

Produced and Photographed by **William S. Yale.**

Recording: direct 16mm. by Sound Masters, N. Y.

Processing: Kodachrome dupe by Precision Laboratory, N. Y.

"In All The World" is in some ways rather more routinely commercial than some of Yale's previous films for the Great Northern, but it is none the less as unusually attractive presentation of the vacation attractions of Glacier National Park.

The film opens with an optically-printed main title, embodying a series of intricate wipes which are not one whit behind 35mm. practice. This introduction certainly shows to what an extent 16mm. in its professional application has group up. The picture maintains this impression from start to finish.

This is particularly noticeable as regards the recording, which is without doubt the finest direct 16mm. recording we have yet heard, and greatly to the credit of the Berndt-Maurer recording and re-recording equipment upon which it was done. Narration, musical background and a variety of sound-effects have been blended as skillfully as any 35mm. sound department could wish.

Photographically, the film is well up to Yale's usual standard, and places him definitely among the nation's best commercial Kodachrome filmers. His exposure-technique is virtually flawless, under the many and varied conditions applying to making a picture in this mountainous region where altitude and atmospheric conditions can be so deceptive. Yale makes excellent use of reflectors in his more intimate shots, using them to good effect to lighten up the dark faces of the Indians, and to relieve the shadows under the broad-brimmed western hats worn by many of the people shown.

The interior scenes are surprisingly good, when it is considered that they had to be made on the actual locations, rather than in a studio, and in more or less isolated resort-hotels in which the maximum permissible electrical load was presumably none too high for color-lighting standards. There are a few dolly-shots in these interior scenes, executed with commendable skill and an understanding of the use of such camera-movement which could well be studied by many Hollywood directors.

In the same connection may be mentioned Yale's wisely sparing use of camera-movement and panning on his exteriors, even though in a region which tempts any cinematographer to pan in order to capture as much as possible of the scenic attraction he is filming. Yale's pans are few and far between—and when he pans, it means something, both in photography and story-interest.

His cutting is worth careful study. He uses short scenes and frequent cuts, keeping his total running-time to an almost over-brief minimum, and leaving the audience perpetually feeling that although it has seen everything clearly, it would still like a little more. In many instances, too, the film is cut to coordinate with the phrasing and tempo of the narration. This is very capably done, both in the editing, and in writing and speaking the narrative.

His treatment of the subject-matter is excellent. It is no small task to effectively cover the wide range of attractions he had to, and to do it within a strictly limited running-time. He does it excellently, giving almost every member of the audience something to draw his interest to Glacier Park, regardless of what his personal interests may be.

Yale manages to keep several characters running all through his picture. However, it may be suggested that he does not take full advantage of these characters; to this reviewer, at least, it would appear that for a film intended for general showing, there would be a great deal of advantage in personalizing these characters—making the audience feel they were Mr. and Mrs. Averageman and their daughter actually visiting Glacier Park and exploring its attractions.

AIRCRAFT DIE CASTING

Technical and Educational; 1350 feet Kodachrome, sound (including direct sync. recording.)

Presented by Harvill Aircraft Die Casting Co.

Produced by Hubbard Hunt; Sterling Barnett, Production Manager, Pacific Industrial Films.

Recording: Direct 16mm. by Pacific Industrial Films, Hollywood (Berndt-Maurer System.)

Processing: Kodachrome dupe by Pacific Laboratories, Hollywood.

This film was made to tell the story of die casting in the aircraft industry to aircraft producers, engineering organizations and students. As such, it necessarily combines a certain amount of entertainment-appeal with educational and technical exposition.

Beginning with an introductory sequence (sync. recording) of a radio commentator broadcasting a talk on die casting, it swings into its institutional promotion quickly after hinting at the wide range of die-cast products used in ordinary home life. From this point on, it concentrates on a semi-technical exposition of the methods of die-casting, and the advantages and uses of this method in making aircraft parts.

There are naturally a considerable number of scenes made actually in the plant involved, showing, with the aid of some animations, how die castings are made, tracing the progress of the operation from the drawing-board of the engineer through the various steps of die-making, casting, finishing, inspection and delivery. The treatment, both directional and photographic is excellent, giving a graphic idea of a comparatively little-known process.

In its presentation, the film makes use of some of the first transparency process-work we have seen in 16mm. This was done only on a small scale in this picture, but with today's increasingly powerful 16mm. projectors, it seems probable that the process will soon be capable of utilization to an increasing extent.

The photographic quality of the film is better than adequate, especially when the limitations of subject-matter are considered, and the restrictions of photographing in plants like these which are working to capacity on defense orders. It may be mentioned that this last was responsible for one of the film's faults—the use of scenes made some time ago, using old-type Kodachrome, in various aircraft plants where photography is today impossible due to military restrictions.

The sound is good, though there are some bad jumps in sound-levels as the track cuts from direct sync recording to conventional offstage narration.

Cutting is good, though it seems likely that the introductory sequence might conceiveably be shortened somewhat. The color-print is quite good, though due to the mixture of old and recent Kodachrome mentioned, the color-balance is not uniform, and in some scenes, the contrast is rather high.

Again and Again!

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PAUL LOCKWOOD
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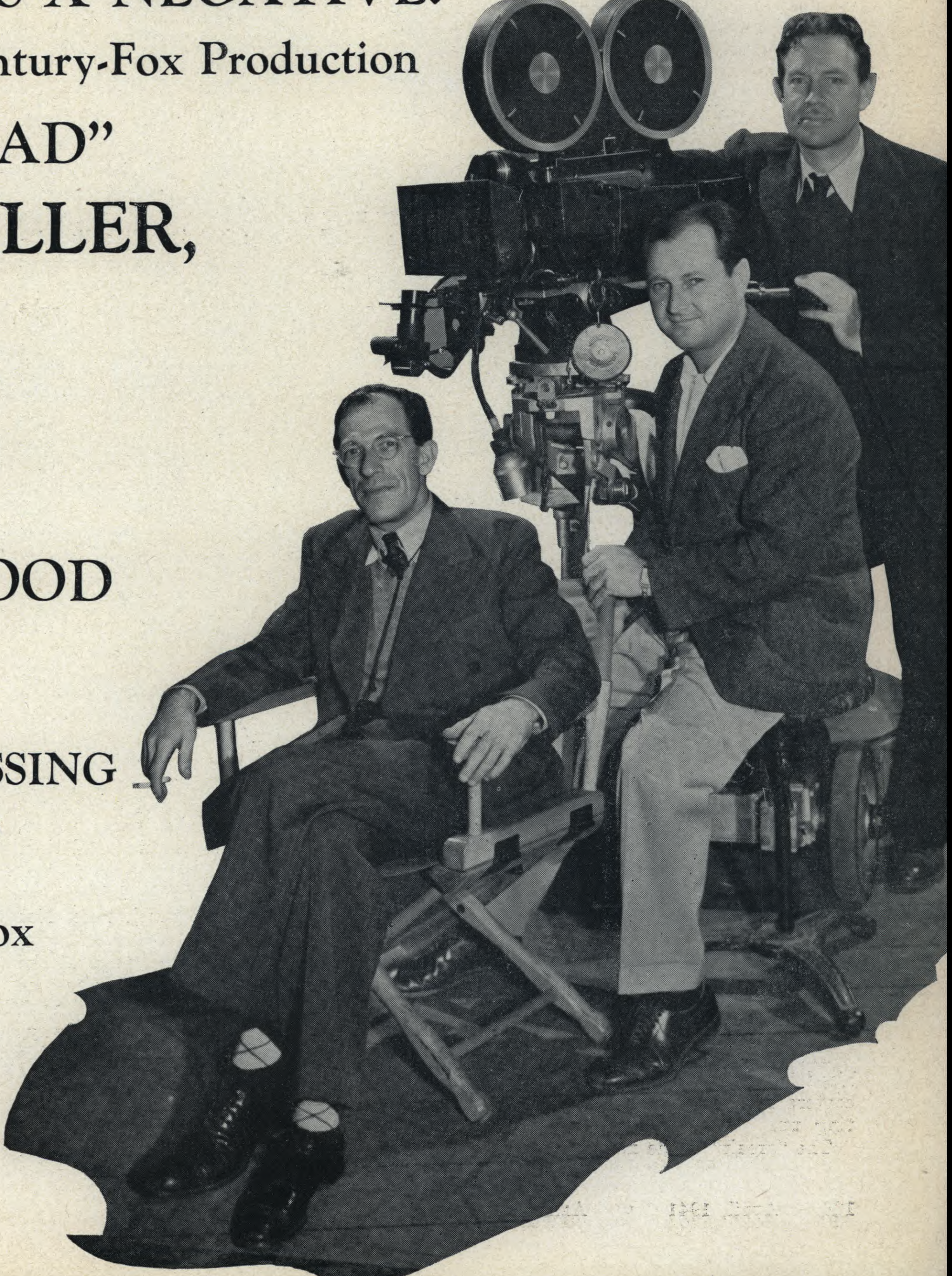

Freedom of the Seas

(Continued from Page 165)

ground must somehow be treated to give an effective, natural result—and this with the backing less than twenty feet away from the principal characters who leaned against the ship's rail!

Necessity, always the mother of invention, became the parent of another offspring—the Water Ripple and Wave Illusion Machine.

A series of these machines were set up on the Marine stage behind a muslin backdrop sixty feet high and six hundred feet in length—a tremendous piece of fabric. The upper, or sky portion, is dyed gray muslin—the clouds being effected by using bleaching fluid on the photographed surface, and opaqueing the reverse side around the clouds, softly, for day or night light-effects.

The lower fifteen and a half feet of the drop is reserved for the sea, and this portion is not touched with paint or dye of any sort. The sea effects appearing there are entirely the result of illumination provided behind the Ripple machines, which, projected through the opaque wave patterns printed on three vertically actuated transparent screens of cellulose acetate, provide an amazing illusion of an unlimited expanse of sparkling, undulating, salty sea. The distances a cinematographer can pan with his camera are limited only by the length of the stage and the number of machines. The machines carry their own light platforms, adjustable to any height, so that the horizon may be set as required.

Electrically motivated, the series of machines work as a unit. The screen wave-patterns are designed to join each other perfectly, the screens moving silently up and down as result of the action of a system of shafts and cams.

The design of the wave-patterns was an exacting task, as each curve of the pattern had to be designed by hand. At the top of the screens, the pattern is a thin, long, stretched-out, wavy line, overlapped by each successive line on the way down, so that little light is allowed to come through near the top of the screen.

As the waves go down the screen, the pattern becomes a more vigorous, active, undulating line, thicker in width. The successive patterns overlap in such a fashion that more light is allowed to come through as the bottom of the screen is reached.

These screens are fabricated from stock-sized sheets, the patterns being printed on them by means of a rubber stencil, cut direct from the original design. They measure approximately sixteen feet by sixteen feet and are all of exactly the same design, secured to the machine by means of metal battens top and bottom.

The machine-frames are all of stock-sized iron pipe, mounted on heavy steel casters for portability and ease of setting up.

The "break" of the machine, which adjoins the muslin backing at the horizon line, is provided with a nigger to keep the light off the sky-areas above, thus eliminating objectionable shadows.

Etched cellulose acetate patches are provided to be attached to the screens to kill hot spots caused by direct rays of the sun-arcs utilized for illumination.

Each machine occupies an area fifteen feet long by ten feet deep, including space for the sun arcs. By shifting these lights about many interesting effects can be obtained upon the "water."

Thus has freedom of the seas for director and cinematographer come to Hollywood sound stages. END

Distant Locations

(Continued from Page 162)

minutes or 3.1 times longer. So I think it well to copy down this table.

Temp.	Time of Dev.	Factor
50	28 min.	3.1
55	17	1.9
60	11.8	1.3
65	9.0	1.0
70	6.8	0.75
75	5.4	0.60
80	4.0	0.45
85	2.8	0.30

I have noticed many place ice directly in the developer. This will help you show your director a good test and what he *wanted* to see: but it will only mislead you as to the final developing back at the laboratory where your negative will—on the strength of your tests—be given normal development. For the ice will not only cool your developer—it will at the same time melt and dilute the solution so the result of shooting according to such a test would be overexposed negative, as you would be exposing for a weak solution, while the lab would actually use normal time and strength in their development.

I have found two excellent ways. Where we have all the ice we want and can carry glass bottles without being broken, I favor the Nepera Solution, which can be diluted to any strength of developer you wish. For example, not to hold your director and company up very long, the developer can be mixed in a strong solution and will thus develop the tests a shorter time. If for instance the studio laboratory is developing their negative on machines at nine minutes, then we would mix one part of my Nepera solution to seven parts water, and develop only four minutes and then fix. This would give us the same full negative as that back at the laboratory, yet without wasting so much time. Not only did we have the advantage of knowing all conditions of the negative at the time exposed, but we had a few frames when dry to make enlargements with my Leica enlarger which I always carry. These enlargements are valuable in matching other scenes, to check on clothes and props, and for trick work to be made later on.

When we have had to travel under bad conditions, where bottles would not last or added too much weight, or were liable to freeze, I have carried a good supply of "Tabloid" Rytol tablets. These little pills can always be mixed up very easily and used even if you have to get inside an oven or under a truck and cover yourself up while doing it.

There are also times when a cameraman has but ten small fingers and can carry only so much. Then it means one thing; that some things will have to be condensed down to lighter loads. I remember one time while flying and picturing the arctic in bipack color with Donald B. MacMillan, the noted explorer. We had been up north and were on our way south again and were in Hamilton Inlet, Labrador. The Lockheed taxied a good long mile from the *Bowdoin*, the mother ship, but with no success. We could not lift off the water.

Going back to the *Bowdoin* the pilot shook his head. He knew we were going on a very dangerous trip over the snow covered mountains with pontoons on the plane and with but a single motor. Should we have to sit down somewhere in a deep canyon or on a snow peak, we would have to have our rations, tents, blankets, etc., so we could try to get back afoot.

Something had to be done. Gasoline we had to have, cameras and films also, for pictures were the purpose of the hazardous trip. We looked at each other. All looked at my extra camera equipment. To compromise I took only two silver drinking cups, my Rytol tablets, a sockful of hypo crystals and a loading bag. I changed the negative in the double magazines under several rolls of blankets and got a couple good tests into the bargain regardless of the sudden bumps and bounding around. During that long flight under such terrible flying weather of snow and hail, MacMillan and I made the first motion pictures ever made of the Grand Falls of Labrador. And I might add before I close, by using the hand tests and test box the entire 40,000 feet of bipack exposed was printed on a normal light.

Photography of the Month

(Continued from Page 169)

to finish the production is filled with aerial scenes. Many of them are strikingly spectacular from both the viewpoint of pictorial effectiveness and of spectacular action. The shots of the four-motored "flying fortress" bombers flying in formation in the mock raid on Los Angeles, skirting cloud-banks and plunging through them, are outstanding. So, too, are the shots of the training-planes at Randolph Field, both in straight flying and stunting against typical Dyer cumulus-cloud backgrounds. The many aerial follow-shots of airplanes taking off and landing, both singly and in squadrons, are another outstanding feature of the picture, while Dyer's work in the hedge-hopping sequence plays a big part in creating the

MORE THAN HALFWAY

DEFT treatment and dramatic lighting contribute much to modern screen productions. Unusual effects receive competent support from the wide latitude and exact uniformity of Eastman negative films. They always can be depended upon to meet director and cameraman more than halfway. Eastman Kodak Company, Rochester, N. Y.

J. E. BRULATOUR, INC., ***Distributors***

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PLUS-X

for general studio use

SUPER-XX

when little light is available

BACKGROUND-X

for backgrounds and general exterior work

EASTMAN NEGATIVE FILMS

thrill this sequence provides. The contribution he makes in process background-plates, while it will probably go unnoticed, is also vital.

The film owes an incredible part of its success, both technically and dramatically, to the superb process-work of Farciot Edouart, A.S.C., and his staff. That the production is among the best air films ever made stands much to the credit of Edouart and his associates, for in no previous air-film have the resources of modern transparency process-work been so extensively brought into play. And a very great part of Edouart's work is based upon the tremendous possibilities stemming from his development of the ultra-powered triple-head process projector. Without this, it would have been impossible to get the many long-shots in which the players are seen taking off, flying and stunting in angles which show virtually the entire plane, and convincingly make the plane not merely fly level, but climb, dive and roll—all in angles that give the effect that the camera was flying right alongside, about as near as the plane's own wing-tips. To this writer's mind, the amazing scope and flexibility of the transparency-work is perhaps the outstanding single feature of the film. The picture could never have been made without Edouart's superlative contribution.

Gordon Jennings, A.S.C., is broadly credited with "Special Photographic Effects," and he, too, has done a masterful job. "Special Photographic Effects" covers a wide range of achievements in this case: among them are miniatures, matte-shots, and optically-printed composites which very skillfully blend straightforward photography with what this reviewer at least guesses to be animation. Again it can be said that the picture could never have been made without the parts that Jennings and his staff contributed.

Inevitably, the film has some faults. Veronica Lake's make-up, both in her earlier scenes and in her closing scenes, has already been mentioned among them. It seems also to this writer that while in the main Film Editor Hugh Bennett has done a fine job of welding into a coherent whole all the incredibly diversified elements of dramatic action, aerial spectacle, thrills and process-work, he has at several times over-emphasized the spectacular atmospheric shots of vast squadrons of planes in the air at the expense of good dramatic balance. Frequently, especially as he necessarily bridges quickly over the progress of the flying cadets' training, it struck this reviewer that intimate, individual scenes of but one or two planes in the air, presumably flown by one of the central trio, would have been much more effective from both the dramatic and the flying viewpoints. It would seem that many of these training sequences could have been given more personalized treatment to great advantage.

In conclusion, endless praise must be given the many uncredited Army pilots whose spectacular flying gave the ground and flying cameras their spectacular material. Again, orchids to Tover, Dyer, Edouart, Jennings and their associates, and to Paramount for being so generous in recognizing the value of their work.

THE SEA WOLF

Warner Bros.-First National Picture.

Director of Photography: **Sol Polito, A.S.C.**

Special Photographic Effects: **Byron Haskin, A.S.C.,** and **Hans F. Koenekamp, A.S.C.**

Viewing this picturization of Jack London's rugged sea story — the fourth, I believe, since 1913 — it is hard to believe that it was all done on a studio sound-stage. And yet, thanks to the ingenuity of the technical staff — especially Art Director Anton Grot, Director of Photography Sol Polito, A.S.C., and special-effects specialists Byron Haskin, A.S.C., and Hans Koenekamp, A.S.C.— it was not only done entirely without leaving the studio, but done fully as convincingly as though the company had chartered a ship and spent months at sea. As a matter of fact, it was in some ways more convincing, for working in the stage Polito could secure angles and lightings which would have been difficult, if not downright impossible, working outdoors on an actual ship.

The greater part of the picture's footage involves effect-lightings, which Polito has handled excellently. Ordinarily, a picture of this nature is a temptation to the cinematographer to over-play his hand on dramatic effect-lightings, just as it is to the players to "chew scenery." But Polito has kept the situation well in hand. His lightings lend precisely the right note of realism and at the same time heighten the dramatic and atmospheric value of the production: yet they don't call attention to themselves or suggest a cinematographer on an esthetic spree. Few if any of his scenes are intrinsically spectacular: but without the vivid atmosphere his camera creates, two-thirds of the production's dramatic strength would be lost.

The photographic treatment of the film shows an interesting and subtle transition, which keeps perfect pace with the emotional accents of the film. The opening sequence — played in a San Francisco fog — begins on a note of visual softness suggesting mystery. This treatment continues through the first sequences aboard the ship, changing gradually as the harsh character of the ship and its crew are brought out to a visually harder note perfectly in key with the characterizations. It is very well done, indeed.

The special-effects work of Haskin and Koenekamp — especially the miniatures — is excellent. The miniature-shots of the ship looming mysteriously up through the fog, and then sliding furtively away in the mist like the ghost after which it is named, are pictorially excellent and of the very highest dramatic value. The miniature of the collision between the ferryboat and the freighter is another noteworthy achievement. As a master of fact, "The Sea Wolf's" miniatures are some of the finest we've seen in a long time, and Haskin and Koenekamp deserve endless credit for their perfection.

Great praise is also due Film-Editor George Amy for his more than ordinarily capable job of cutting, which makes the most of every scene and sequence.

THAT UNCERTAIN FEELING

Lesser-Lubitsch Production; United Artists Release.

Director of Photography: **George Barnes, A.S.C.**

In this production Cinematographer Barnes acquits himself with considerably greater distinction than was possible in his other current release, "Meet John Doe." Undeniably, conditions were more favorable: he had a typical Lubitsch farce-comedy—a story which invited deft, decorative high-key photography; and he had as his fellow-worker a director with a keen appreciation of the value of outstanding camerawork. The result is a picture which is both excellent entertainment and a visual treat.

From start to finish, Barnes' set-lightings excel. The sets Art Director Alex Golitzen has provided are excellent, but the way Barnes lights them adds immeasurably to their value. This is particularly evident in one sequence of the film, close to the end, which appears to be a retake or added scene not photographed by Barnes. It occurs in the same sets used for much of the other action of the film—but it is not lighted with a comparable pictorial touch, and it appears like an entirely different set.

Much of this pictorial effectiveness is achieved through very deft use of cast shadow-patterns on the light-toned set-walls. Maybe it is just because this reviewer, to paraphrase a rather well-publicized line in Barnes' other recent release, is "a sucker for shadow-patterned set-lightings;" but it seemed each new scene offered more pictorial enjoyment than the one before.

On the other hand, it appeared to this writer that Barnes might at times have favored the players a little bit more; sometimes they seemed to be playing second fiddle (photographically) to set-lightings and composition. A trifle less diffusion might also have been more in keeping with the mood of the story. However, it is not easy to judge this accurately, for the picture was previewed in a theatre in which the projection-booth appears to be mounted at an unusually high angle, with the result that an uncommon amount of keystone-distortion is present in the projected picture. This distortion certainly did not help the appearance of the players; neither, for that matter, did some of the hats and the coiffeur worn by Merle Oberon. We'd like to have seen the picture in a projection-room or theatre with a more straight throw.

In one or two scenes minor technical details intruded somewhat, too. For ex-

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ample, there is a long-shot of Merle Oberon in Melvyn Douglas' apartment when, as she approaches a white door, an unnaturally, sharp shadow of her figure is cast on the door from an unnatural angle—upward, with the light a bit too obviously coming from a spotlight concealed on the floor behind a chair. There's an insert, too, in which the rain-effect on a hotel nameplate is badly handled.

But far offsetting these are the uncounted excellent shots in which Barnes' lighting enhances set and action. There's the shot of Douglas in bed in his hotel, with the shadow of the rain on the window falling on the white cover of his bedside breakfast-table, and the various interesting effect-lightings in the night-effect interiors, all of which deserve careful study. All told, Barnes has done an excellent piece of work, and one which shows his recent Academy Award was very far indeed from being any accident.

MEET JOHN DOE

Frank Capra Production; Warner Bros. Release.

Director of Photography: **George Barnes, A.S.C.**

Less than two weeks from the day that George Barnes stepped forward to receive his well-earned Academy Award, his most recent effort, "Meet John Doe," was previewed. And it shows clearly the imprint of Barnes' individuality. By no means offering its cinematographer the unusual opportunities of such a film as "Rebecca," it is in many respects the more notable job, for the technique that develops the famed "Capra touch" frequently tends to put the camera staff at a disadvantage — and "Meet John Doe" is perhaps the best-photographed of recent Capra productions.

The production begins rather conventionally. Then as reporter Barbara Stanwyck commences to type the "John Doe" letter which really sets the plot rolling, Capra suddenly seems to have been made conscious of the dramatic potentialities of the camera, and from that moment on, "John Doe" builds photographically, until at the end, the dramatic impact of the closing sequence atop the City Hall owes as much to its photographic treatment as to writing, direction or acting. That first sequence centering about the sob-sister's typewriter is a noteworthy example of the intelligent use of unusual camera-angles in their right place as a means of enhancing dramatic effect. Another memorable sequence is the night-effect scene under the bridge. The rain-sequence in the stadium is an example of phototechnical skill at work under difficult circumstances, and the closing sequence is a really notable example of intelligently-keyed use of dramatic lighting and composition.

Another noteworthy technical highlight of "Meet John Doe" is the brilliant montage-work of Slavko Vorkapich. The several excellent montages in the film are tributes to Vorkapich's skill. All too often, montages are thrown bodily into a production to bridge continuity-gaps, and bear too little relation to the rest of the film as regards either photographic treatment or tempo, while their camera-angles are all too often jarring interruptions. Montage-makers should study Vorkapich's work in "John Doe," for his understanding of tempo, angles, cutting and general treatment are exemplary. Neither too long nor too short, and without the use of any unduly "arty" artifices, these montages tell their stories efficiently and with a smoothness too often missing from run-of-the-mill montage treatment.

Projection Gadgets

(Continued from Page 176)

nearly to completion of my task. The upper or supply-reel element already had a screw hole in the proper place, so a short bolt, a washer and a wing nut completed that section. The lower, or take-up extension required a hole to be drilled about a half inch from the end after which it was placed in position in a similar manner. (Figure 2).

Using my regular spring belt for the take-up, I found that too much tension existed so I added a short length from the rewind belt. After a little experimentation, I found that an inch and a half extra seemed to serve perfectly.* Certainly I am now short a spring belt for the rewind but the lengthened one easily serves the purpose and as this operation is only completed at the end of a completed show, there is no loss. At any rate, with my new set-up, I feel that the fifteen cents were well spent. The hinge sections have a durable finish and besides, with the reels in place they don't show anyway. So now, I am off to a new adventure in smooth home movie shows with only half the bother formerly. Fewer cans and reels are now required and there definitely is a saving in stowage space, and when the cost of one 400 foot reel against two 200 foot reels is considered, a saving in cash as well will be noted.

The old carrying-case didn't need any alteration at all. Merely loosening the wing nuts at the base of the extensions permitted them to be folded out of the way, and the projector slid just as easily into the case as always. (Figure 3). A small hook fastened to the case cover holds the new size take-up reel in place.

In continuation on the subject of smooth home movie projection, an old radio cabinet or hiboy can be utilized to serve several purposes. The one shown in Figure 4 appears to be a radio. Formerly it was; however, Figure 5 reveals the true character of this piece of furniture in its present form. Projection-booth de luxe with turntable and pick-up for musical accompaniment with ample space for storing of equipment are some of its features.

The speaker facing, (Fig. 4) slips out revealing a small aperture for passage of the film image from the projector lens. The shelf holding the projector is fitted to slide in and out, and when in the latter position, the reels can easily be fitted on the spindles and the machine threaded without moving the projector from the fixed position determined by aligning strips about its base. After the projector has been prepared for projection, the shelf is pushed all the way in, neatly concealing the machine. Extraneous light from the lamp house is concealed by the surrounding cabinet and the operation of the projector isn't nearly so audible to the audience.

The turntable is also a sliding shelf. It, too is pushed in when not in use but slid out towards the rear when in operation. Twelve-inch discs can be used when in the playing position. When it is desired to play records I merely connect the pick-up to my radio by a long cable; place the radio near my screen and the evening's entertainment is lined up.

If it is desired to combine the movie show with still projection, the top of the cabinet can be utilized for the latter. (Fig. 5). Much of the interior space can be utilized for storing of films and equipment.

I have found with this particular arrangement of my projector that it is sufficiently elevated to project over the heads of a seated audience which is a happier arrangement than is generally found when using a table or stand for the purpose.

Figure 6 shows my projector converted for use as a movie editing machine. A cardboard box, a vanity mirror from Mrs. Teorey's purse (hope she doesn't read this!) and a small piece of frosted celluloid contributed to the simple make-up of the viewing device.

I fastened the mirror diagonally from the left bottom of the box to the right outer edge using Scotch tape for the purpose. The celluloid was then secured over the mirror to the outer edges of the box with more tape. Using a safety-razor blade, I cut a square opening in the left side of the box for entry of the image from my projector lens. By focusing on the celluloid as deflected by the mirror I had a perfectly clear image of my film as it was slowly projected. Titles viewed in this manner are correct from left to right for reading. For frame examination at a splice, often necessary in correlating action where one related shot moves into another from a different camera position, I found it expedient to remove the condenser lens and set the heat screen of the projector in an open position by means of a piece of wire.

Removal of the condenser lens prevents the film from being burned, so by stopping the projector, I could view individual frames for several minutes if necessary with no harm to them. Thus, the matter of timing the action of one scene to another became an easy matter.

In the cut it will be seen that the viewing box is attached to the lower reel arm of my altered projector. END

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* Many dealers now stock spring belts in bulk rolls, by means of which it is possible to make up belts of any desired length.—Ed.

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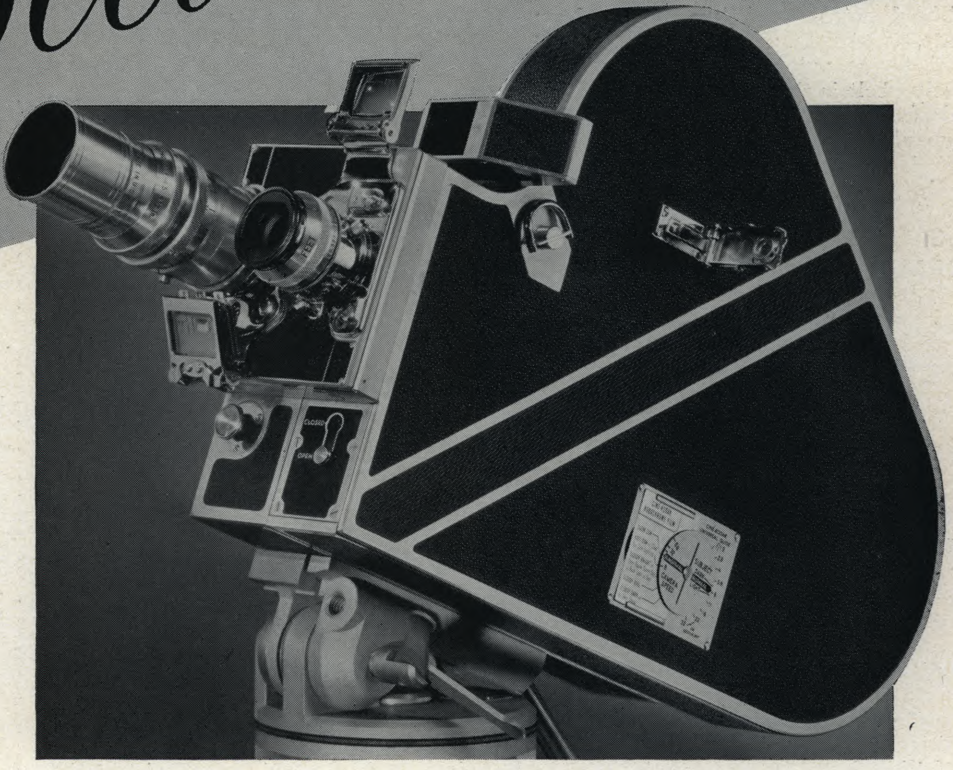

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Professional 16mm. Camera

(Continued from Page 170)

plate, terminating in a convenient knob by means of which the camera may be turned by hand while threading.

The film-magazines, as has been mentioned, are of the standard Bell & Howell double outside type. Magazines having a capacity of 200, 400 or more feet of film may be fitted, and the spindles provide for using either the regular laboratory-pack core or a special core. It is also possible to fit the regular 100- and 200-foot daylight-loading spools on the magazine spindles.

The film take-up differs slightly from convenient 35mm. practice in that special ratchet-type pulleys are used, and the take-up belt is threaded over the pulleys of both magazines at all times. A special adjustable belt-tensioner is used to compensate for the varying amounts of slack in the take-up belt when 200-foot and 400-foot magazines are used. An endless fabric belt is used.

McMahan and his Chief Cinematographer Jack McCoskey have added further professional refinements to the camera. They have mounted it on a standard 35mm. free-head tripod, adding to its 35mm.-type Bell & Howell dovetailed head a screw which meshes with the camera's tripod-bushing. They have also fitted a standard professional matte-box and sunshade, which works excellently with this camera.

In the original design of this camera, Bell & Howell made the mistake so many other camera-designers have, of attempting to utilize the magnifying focusing system as a finder. A 1-inch lens is mounted in the front-block of the camera in such a way that when the focusing rack-over is in photographing position, the focusing magnifier is behind this lens. In theory, this should give a most excellent finder: but in practice, it would be almost impossibly difficult to make accurate follow-shots using this finder's small eyepiece. Therefore McMahan and McCoskey have fitted a standard Mitchell finder to this bracket, giving a professionally large, upright finder-image which may be accurately followed, and corrected for parallax.

In developing this first experimental model, the designers also sought to adapt it for use as a single-system sound-and-picture camera. As will be seen from the illustration, a fitting is provided for a sound-recording drum, and two main film-moving sprockets are used, instead of the one large one familiar in most 35mm. professional cameras. An aperture at the rear of the housing was provided to accept a standard recording galvanometer, and of course the sprockets, pilot-pins, etc., were one-sided to permit the use of single-perforated 16mm. sound-film. This would appear to be an unnecessary refinement, for the writer has not as yet encountered a single commercial 16mm. technician who favors the use of single-system recording over the more controllable double-film system generally used in 35mm. work. McMahan and McCoskey, at any rate, do not employ this system, and have accordingly had pilot-pins fitted on both sides of the gate, rather than above and below it on one side, as in the original design; they are also replacing the original one-sided sound-type sprockets with sprockets bearing teeth on both edges. This should assure greater steadiness and far better control of the film at all points. A standard professional anti-buckle throw-out switch is also being installed, even though in this camera buckling is hardly to be anticipated.

It would appear, too, that for completely professional use the eventual production models of this camera would do well to employ more thoroughly professional lens-mounts. The present experimental model is adapted to accept the usual "Type C" Bell & Howell lens-mounts employed on the 70D-A Filmo camera. This has two drawbacks: one of the principal difficulties so far encountered in enlarging 16mm. Kodachrome and black-and-white to 35mm. has been that 16mm. lenses are not mounted with as great precision in relation to the film gate as are professional 35mm. lenses. In addition, the conventional 16mm. lens-mounts are not easily adapted to the ring-gear arrangements necessary to permit following focus when the camera is used inside a blimp for direct sound recording. It would seem that a line of larger and more professional lens-mounts must necessarily follow as these cameras are finally put into production.

To date, however, it must be admitted that there has been no official assurance that these cameras *would* go into commercial production. The present example, Bell & Howell officials freely point out, is strictly an experimental model, further inferring that upon the present model's performance in practical tests in Hollywood studios, and in actual service in McMahan's commercial production of industrial films will rest the technical and commercial future of the design as an actual commercially-available product.

However, to this writer it seems certain that the camera, even as it stands today, most certainly ought to go into production, for it fills a need that has long been felt among commercial, industrial and scientific users of 16mm. for a professional 16mm. camera that is designed and built to truly professional standards of precision and operating convenience. It should also have an increasingly spectacular future in studio work, not only in making 16mm. tests for 35mm. production, but even in actually filming independent feature productions for joint 16mm. and 35mm. release. It is, at any rate, one of the first, if not actually the first 16mm. camera with which a 35mm.-trained studio camera crew could feel completely at home. As such, it represents the most sensational technical development of 1941.

END

Pixilated Pictures

(Continued from Page 173)

ture of the operating-table upon which lay the inanimate form of the "Monster," and even miniature figures of the "Doctor," the "Monster," and the "Doctor's" assistant, "Fritz," the hunchback. In this, the miniature operating-table is raised through the ceiling—an obvious impossibility in a full-scale set—as the electrical current animating the "Monster" is turned on. Alvey paid extremely precise attention to the design and construction of the full-scale and miniature sets for this scene, with the result that when the picture was finally cut, the two matched up surprisingly well.

Another miniature set was that used for the old mill used in the final scene in which the "Monster" was finally destroyed in a spectacular fire. Most of the production was filmed with Mrs. Price's Model 121 Filmo; but for filming these miniatures, a 70D-A Filmo was obtained by Cameraman Jack Locke, to make possible the use of the higher camera-speeds so necessary in filming miniatures.

Shooting completed, young Alvey, assisted by his secretary and script-clerk, Babe Price, and Cameraman Locke, edited the film, made the titles, and got it in shape for the gala Premiere. For this great event, Pixilated's Art Department next went into action. The staff here included young Alvey, Russell Bertsch and "Tish" Walker. Their varied duties included designing, building and painting sets, and making posters to advertise the showings of Pixilated's attractions. (Unlike Hollywood Art Directors, it may be mentioned, all the members of Pixilated's Art Department "double in brass" in other production assignments: Glen Alvey, for that matter, is almost as much of a multiple-threat filmster as Orson Welles, for he writes scripts, directed the picture, played the part of the scientist, "Henry von Frankenstein," built miniatures, directed sound, photography and cutting, and collaborated on poster-design. His associates in the Art Department both played parts in the production, "Tish" playing the part of the little peasant girl, and Russell, her father.

By the time "Frankenstein" was premiered, Pixilated and its productions had done a lot of climbing from their origin as a simple neighborhood "kid show." "Frankenstein's" premiere was held in no less a place than the ballroom of San Antonio's swank St. Anthony Hotel, before a capacity crowd very generously besprinkled with adults. And it was carried through in true Hollywood style, with celebrities, lights, microphoned speeches, and all the trimmings. As each of the Pixilated players arrived, they were conducted ceremoniously to the microphone and interviewed, after which they proceeded to their seats under the glare of a spotlight. The presentation of the picture was no less professional, and was accompanied by a carefully-recorded musical score, with sound-effects, and the like, specially recorded to synchronize with the film.

Casting—so often a major headache in the making of amateur scenario films—is seldom a problem to the Pixilated picture-makers. As might be expected, appearing in a Pixilated production is quite a distinction, and is eagerly sought after by San Antonio's younger generation. There are fifty young actors on Pixilated's active list, while the company's casting bureau has a listing of more than 300 others who either have appeared in bits in previous films, or aspire to do so.

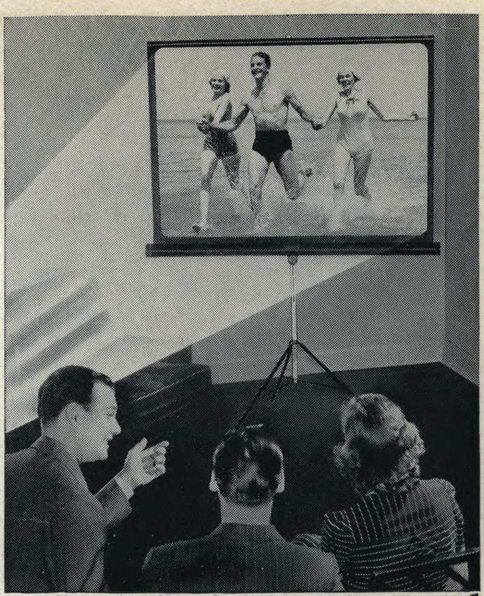
These level-headed Texas youngsters have also solved another problem which many other scenario-filming amateur groups have found troublesome—nonappearance of actors when shooting is scheduled. Each actor is signed to a formal, written contract as binding as any ever inked by a $5,000-a-week Hollywood luminary—more so, perhaps, in some ways, for stiff penalties are provided for non-appearance or tardiness at shooting. Each contract specifies the part the young player is to enact, the anticipated length of the shooting schedule, and the salary he (or she) is to receive. In addition, each player, upon signing a contract, is required to put up a deposit to ensure that he will be available whenever notified of shooting: specified fines are deducted from the deposit each time the signer fails to show up when notified to do so, and lesser amounts are similarly levied for tardiness. This, coupled with the perennial enthusiasm of youth, has given Pixilated's players an enviable record for sustained activity, even though several months have sometimes been spanned between the start and finish of production.

All of Pixilated's production ventures so far have been profitable, and during the five years of its existence, the company has accumulated a surprising store of equipment and properties. The original sponsor, Mrs. Price, has continued to furnish the camera and projector, and also an upstairs room which serves the company as a combination office, cutting-room, workroom and prop-room. But in addition, the company now owns an excellent supply of lighting equipment, a recording - machine, film - editing equipment, miniature sets, wardrobe, make-up equipment, and the like.

Local business houses and organizations have gotten behind the efforts of these youngsters in several instances. The San Antonio newspapers, for example, have willingly publicized Pixilated's efforts, printing pictures and news-stories on every production. The Interstate Theatre Circuit—far from resenting their juvenile rivals—have helped whole-heartedly. The theatre-chain presented the company with a screen, and on at least one occasion (the making of "Hollywood Ho!") loaned the necessary costumes. Pixilated's players one year built a float for San Antonio's "Battle of Flowers" parade, and have made many "personal appearances." Most recently, the Principal of the high school which most of the young movie-makers now attend has become so interested in Pixilated's activities that he is planning to offer courses in Photoplay Appreciation, Script-writing, and other phases of movie work in the near future.

The financial side of Pixilated's activities is of particular interest. As has already been indicated, they financed their initial production by selling stock. This has proven such a successful method that it still continues. For the first production 300 shares of stock with a par value of 10 cents a share were issued. When the "first-run" showings of this film were completed, the company found its treasury in such healthy condition that the management declared a dividend of 100% on the stock, and proceeded to finance the second production by floating a new stock issue—this time at 20 cents a share. And from that day to this, Pixilated's financial wizards have carried on with the same general plan of making their stock self-liquidating, though as the years have gone on and both the scale of Pixilated's productions and the financial responsibility of its members and stockholders increased, larger quantities of stock of higher par values have been issued.

As each picture is planned, shares in the necessary amount are sold to the young investors, and with the money raised, the picture goes into production.



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When the picture is finished, tickets for the film's showings are issued to each stockholder in an amount equal to his holdings of stock. These tickets he sells, thereby automatically liquidating his investment. When the productions are big successes—as they usually have been so far—dividends are declared, and, following good business practices, surpluses are placed in the firm's bank-account.

All told, with executives, a board of directors, a stellar contract list, an extremely versatile technical staff, and regular office quarters, Pixilated Productions (not incorporated) seems to have almost everything, on its smaller scale, that a major Hollywood studio has. Everything except one—it hasn't got a deficit! **END**

Transitions

(Continued from Page 174)

By using the smooth lap-dissolve, the audience is less conscious of the dissolve and concentrates solely on the subject-matter. As a consequence, if the sequences or changes you are affecting are closely related, the lap-dissolve is very advantageous for uniform pictorial flow.

Lap-dissolving a series of events indicative of early morning can be done by combining an alarm clock, morning paper, a bottle of milk on the back porch, frying eggs and bacon, and other occurrences which our thoughts connect with morning activities. This could also be done with direct cuts, but the effect would not be nearly as smooth. If, then, you wish to effectively carry the audience forward in thought, the mildest way is with the use of lap-dissolves or fades.

Another and speedier transition can be accomplished by using wipe-offs, but inasmuch as most amateurs are not usually equipped to make wipe-offs, we won't dwell long on that point. Wipe-offs, like direct cuts, are usually very abrupt, and are not usually devoid to a certain amount of harshness. Instead of making the audience less conscious to the transition, it tends to call their attention to it and to concentrate on the trick camerawork of the wipe. You will notice that as a general rule the only place where wipe-offs are used in professional pictures is in the opening sequence of titles. After that, fades and laps predominate. In other words, the editors seem to do all they can to awaken the audience at the first part of the picture and then keep them awake by a rhythmic flow of scenes afterwards. Usually, when wipes are used in the story sequence, it is overdone and should have been substituted by a simpler transitory link.

The average amateur often becomes so enthused over his choice of a transitional effect that he loses sight of an important part of the continuity. This is evident mostly in films which are made in Kodachrome. Inasmuch as a lap-dissolve or fade is the smoothest transition, Mr. Amateur will forget his continuity of color and lap-dissolve a scene predominant in one color—say yellow, with a scene which is predominant in some other, such as blue or red. The contrast of color creates a harshness in the lap and the audience gets a color shock. There are so many phases to watch in transition effects that they become rather involved, unless careful study is made beforehand. But, then, no one ever said movie-making was easy—and if it were easy, we would not have so much interest in it!

In black-and-white scenes, the lap-dissolves or fades should be in approximately the same lighting key. If it is necessary to raise the lighting key, do it gradually as you approach the end of the sequence, so that the eyes become accustomed to the change. It is not a good policy to change quickly from a low-key scene to a high-key scene, instead soften the blow with an added transitional scene or two. This, however, will depend greatly on you and the picture.

Forward strides can be made in scenario films by using "montage" effects to replace titles or lengthy scenes. Although these effects are not necessarily transitions, they often serve as a transitional medium. Montage is the proper editing of disconnected short scenes which when viewed separately are meaningless, but when properly arranged convey a thought or lapse of time which is beneficial to the story.

All montage effects must be assembled for fast tempo, flashing suggestions to the audience to create an impression or change of thought. Slavko Vorkapich is a recognized master of this art in Hollywood, and when you see his name on the screen, keep a sharp eye on his montage creations. Many of his individual scenes are only two or three frames in length to merely suggest an idea to you; but when all are properly assembled together, they get over important ideas in a minimum of time and footage.

For an example, the scenario calls for the fast spreading of news. Here is an assemblage of scenes for it in which each scene is utterly meaningless but when properly cut and edited will give the desired impression. A lady rushes to a phone—cut to telephone wires and poles rushing across the screen—cut to another lady answering the telephone—cut to more wires—cut to another person on the telephone—cut to another person on the telephone—cut to Western Union telegram form—cut to wires—cut to a hand on a telegraph key—cut to a telephone switchboard—double expose a headline—cut to wires, people on telephones, etc.—progressively shortening each succeeding scene until you have speeded up the whole effect to a terrific tempo. Build up suspense or action until your audience is mentally apace with the spreading news.

Other effects of lapse of time can be accomplished by similar arrangements of scenes to give impressions ranging from short periods of a couple of hours, to a series of years.

Transitions and special effects are an integral part of any good picture and require the use of well-chosen ideas, excellent photography and an undetermined amount of care and patience. In transitions, work for smooth effect on the minds of the audience, avoiding any color shocks or idea-shocks. In montage, use direct cuts to awaken the senses and speed up the alertness of the viewers. Each have definite parts to play and each much be handled in a different manner.

END

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Teaching Cripples

(Continued from Page 175)

portance which the motion picture camera plays in dispelling this fallacy.

It is a great thrill for some "alumni" of the school to see recorded on motion picture film the appearance he made when he enrolled at the school in a wheelchair or on crutches, and then to note the manner in which he walked up to get his diploma on "commencement day."

In addition to the two motion picture cameras, the school also makes constant use of three still cameras, so that the photo "still" files may be kept up to date at all times.

The cameras used for this purpose include a Voigtlaender (Compur shutter) with Skopar f:4.5 lens. This excellent German camera purchased many years ago is still as good as new. By stopping down the camera to f:8 at 1/200th of a second on sunny days, the pictures seem to take on a third dimensional aspect in that the figure in the foreground stands out much like the subjects viewed through the old-fashioned stereoscope.

An Argus "candid," fixed focus 35mm. camera and a Leica camera, Model "F", which also takes 35mm. pictures, complete the school's collection of photographic equipment. END.

Scenario

(Continued from Page 177)

Scene 31: Close shot of vacuum cleaner moving across floor, followed by Wifie's feet.

Scene 32: Close-up of Wifie's hands, dusting the piano.

Scene 33: Angle-shot of Helen, adjusting a Photoflood.

Scene 34: Angle-shot of Wifie's hands making a bed.

Scene 35: Close shot of Helen's hands, taking film from camera, putting it in box.

Scene 36: Close-up of film-box being put into mail-box. FADE OUT.

Scene 37: FADE IN. Close-up of Postman's hands slipping returned film-carton into mail-box.

Scene 38: Close-up of Wifie's hands taking carton out of mail-box. WIPE TO

Scene 39: Close insert of another club-meeting notice.

Scene 40: Medium-shot of Wifie, across dinner-table. She is spruced up and smiling as she speaks.

TITLE:

"YES, OF COURSE, I'M GOING TO THE CLUB TONIGHT."

Scene 41: Close shot of Hubby, registering surprised pleasure. WIPE TO

Scene 42: Shot toward front door, from inside. Hubby and Wifie approach it, and go out together. WIPE TO

Scene 43: Long-shot at entrance of meeting-hall. Hubby and Wifie enter and greet various friends, who may or may not be shown.

Scene 44: Medium long-shot of Hubby, engaged in heated argument with a fellow-member.

Scene 45: Two-shot by projector. Wifie enters and hands reel of film to the Club Projectionist, then turns back in direction she entered.

Scene 46: Close-up of gavel pounding for order.

Scene 47: Montage, *ad lib*, of officers of club to suggest progress of meeting.

Scene 48: Close shot as projectionist turns on projector.

Scene 49: Insert, masked down to suggest projected picture:

TITLE:

MY DAY
By
Eleanor Filmer

Scene 50: Close-up of Hubby (with flickery front-light on face, dark background) He sits up suddenly in surprise, and watches intently. FADE OUT.

Scene 51: FADE IN. Long-shot of end of projection-room. Lights go on and the President steps forward. He speaks:

TITLE:

"THE WINNER IN THIS MONTH'S CONTEST IS—"

Scene 52: Two-shot of Wifie and Hubby. Suddenly both register amazement.

Scene 53: Close-up of President, speaking.

TITLE:

"- - - MRS. TOM FILMER, WHOSE LAST-MINUTE ENTRY YOU'VE JUST SEEN!"

Scene 54: Same as Scene 52. Wifie and Hubby are still amazed.

Scene 55: *Ad lib* flashes of hands applauding.

Scene 56: Long-shot. Wifie's neighbor almost shoves her up, and she walks dazedly forward.

Scene 57: Close-up of President's hands presenting Trophy to Wifie's hands. FADE OUT.

Scene 58: FADE IN. Long-shot of Hubby and Wifie. The trophy is on the mantel at home, and both are admiring it. He puts his arm around her and kisses her. WIPE TO.

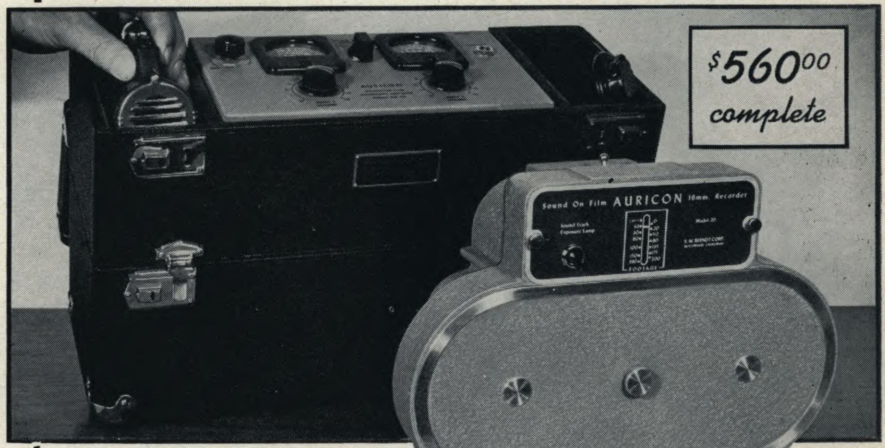
Scene 59: Insert: Close-up of Classified ad in newspaper, under "Help wanted, female," an ad for a domestic servant, with address of Tom Filmer. WIPE TO.

Scene 60: Medium-shot of Hubby and Wifie sitting in nearby chairs in their livingroom, contentedly reading the evening paper. Camera pans up to show dining-room, in which a maid is clearing away supper-dishes.

Scene 61: Close-up, between the two chairs. Hubby's hand steals over and finds Wifie's hand, and holds it affectionately. FADE OUT.

TITLE:

THE END



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8mm. In the Air

(Continued from Page 179)

other way; after all, you know, the Government says "Thou shalt not fly thy plane nearer to any other plane than 300 feet—" and there's a lot of good, sound common-sense in that ruling. After all, you don't want to get so intent on your shot that while you're making it, your two ships tangle in the air! The telephoto is a godsend there. Using a 1½-inch telephoto on my eight, I've frequently been able to bring other planes apparently so close to the camera you could see and recognize the pilot. Yet at all times we stayed the prescribed 300 feet apart!

Choosing subjects for aerial movies is one matter where you've pretty well got to take what the occasion offers. There's an endless fascination to shots of cloud formations, especially when they're big, puffy white cumulus clouds, maybe towering thousands of feet above you, against a dark blue sky. The interplay of light and shadow on a cloud-bank photographed from above is fascinating, too, especially if you fly over occasional holes in the clouds and get a peep of ground below.

Other ships in the air, whether flying conventionally or stunting, can do a lot to liven up your air sequence, especially in Kodachrome. Get a brightly-colored plane against a background of clouds, or blue sky, or mottled brown-and-green farmlands, and you've an eye-catching Kodachrome shot.

Shooting at objects on the ground, it is best to pick out something that is very plainly discernible. Bays and harbors are of course fine subjects—San Francisco bay from the air is one of the most impressive sights I've ever seen—but be careful now-days about using your camera when flying over some of Uncle Sam's Naval ports; with the best of intentions you might include something the authorities wouldn't like displayed on film, and you're very likely to get a sharp note from the military or naval intelligence department, who keep a close watch on such things.

Rivers, lakes, dams like Boulder and Grand Coulee, and so on, are other plainly-evident features of any aerial landscape, and are fine camera-subjects. But my favorite are mountains. They're always picturesque—different each time you see them—in every different lighting and weather-condition. And they're so big they stand out handily in the finder—no small advantage, believe me.

Perhaps for this reason, I've filmed an unusual number of mountains all over Western America—from Pike's Peak to Mt. Rainier and Mt. Whitney, the highest peak in the United States. An aerial shot of one of these mountains is an impressive lesson in how small and insignificant we humans are. We fly along in our planes, proud that the power of our ship and the skill of our piloting have lifted us to an altitude of eight or ten thousand feet above the earth. Then we come to the mountain—and find it towering nearly a mile (sometimes more) above us. In reality or on the screen, it's an impressive sight! END

Idea Exchange

(Continued from Page 182)

haphazardly into the picture and suddenarrange themselves to spell out your title. For 8mm., where you can't use the upside-down camera trick, you can sometimes work this by stop-motion animation, shooting a frame or so and then moving the balls a bit, shooting another frame, moving the balls in a bit more, and so on. If you have a spotlight, it's a good place to use it, for the sharp beam of the spotlight will make the balls look round, and throw interesting shadows.

R. D. THURBY.

Home Movie Previews

(Continued from Page 180)

number (this is printed on the edge of the carton). Then, if you are reasonably sure of your exposure technique, hold all your film until the end of the vacation and send all of it to the processing-plant together, so it goes through together, under uniform processing conditions. In the particular scenes in question, either the color-balance of the film itself or of the laboratory on the day it was processed, leaned too far toward the blue.

All told, however, "Boots and Saddle" takes place among the most exceptionally fine vacation films we've ever screened. We'll be anxious to see more of Miss Marx's filming.

Movie Clubs

(Continued from Page 181)

this film an average rating of 96%.

The Club's new officers were subsequently installed at the Annual Banquet, held on March 19th. Photographic dealers in the Philadelphia area provided a total of 21 door prizes, and the members and their guests, over 200 strong, were addressed by Judge Earnest DuPille on his life and membership in the Adventurers' Club. Film Fare included a Kodachrome film on the Boy Scouts, prepared from a script by Arthur Gale, A.C.L., who also spoke on scripts and preparation, and the showing of the First, Second and Third Prize films from the Club's Annual Contest, presented with synchronized music and sound-effects.

B. N. LEVENE, President.

Bull-Fight for L. A. Cinema Club

The program at the March meeting of the Los Angeles Cinema Club was more than ordinarily varied. New member Gaetano Faillace presented a thrilling Kodachrome film of a bull-fight filmed on his recent visit to Mexico City; Ray and Marguerite McMillin, a beautifully-filmed picture of Yosemite, also in Kodachrome; Ray Patin presented "Flying Feathers," an out-of-the-ordinary film in black-and-white 8mm. demonstrating the expert skill required in archery; and the film part of the program closed with President Hight's Kodachrome film of Glacier National Park.

The balance of the evening was devoted to an innovation — a "Cinema Quiz"— which provided a lot of real fun as well as information. The winner received 50 feet of Kodachrome, which was captured by Mr. McMillin.

JACQUES SHANDLER, Secretary.

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Tri-City Studies Titling

The March meeting of the Tri-City Cinema Club (Davenport, Ia., Rock Island and Moline, Ill.) scheduled an instructive program, particularly featuring title-making and editing. The Eastman Kodak Co. lecture, "How Good is a Motion Picture?" was to lead the program, followed by demonstrations by club members on titling technique and gadgets. Three films were to follow: "Longwood Gardens," DuPont; "Spring Blooms," 300 feet 16mm. Kodachrome by President Mueller, with personally-made titles; and "Film Editing," 400 feet black-and-white 16mm. from the Harmon Foundation. The program concluded with the showing of members' films.

DR. ALBERT N. MUELLER,
President.

San Francisco Has Contest

The March meeting of the Cinema Club of San Francisco was highlighted by the Club's first contest. The regular program scheduled three special features: "That Man's Here Again," Kodachrome Christmas film by J. Allyn Thatcher; "Baby Time," 16mm. Kodachrome, by Member Louis Petri; and a 16mm. Kodachrome film made by Treasurer Russell Hanlon, showing his son's activities during the day.

JOHN B. SMURR, President.

Income-Tax Program in Minneapolis

Notices of the March 18th meeting of the Minneapolis Cine Club were sent out in timely imitation of the Government's "Form 1040" which the members had presumably filed with appropriate contributions three days before. Interest, according to the notice, was promised to be above the 1% level, and a tax of exactly 10% on the members furnishing film-fare for the evening was promised.

Films shown included "Northern Minnesota," by Albinson; "Old Man River," by C. Michener; "Hunting," by Thomas and N. Shattuck, and an assortment of Sport Shorts including a wrestling number featuring the "Angel," by President Davidson and a ski picture by F. Thomas.

Meters, Mexico for St. Paul

Meters and Mexican scenics highlighted the scheduled program of the St. Paul Amateur Movie Makers Club. Consulting Engineer Carleton Mizen of the Northern States Power Co. was to speak on "The Weston Cell," and Mr. and Mrs. Arthur Swanson, whose twin hobbies are photography and the study of Mexican archeology, showed some of the 1000 feet of Kodachrome made on their recent visit to Mexico. J. V. Nelson showed a 400-foot Kodachrome news-film of St. Paul's Winter Carnival Parade; Harold Smith promised a pair of 100-foot 8mm. monochrome films: one, "Troop C," illustrating the use of photofade wipes and fades and the use of alphabet-soup letters for titles, while the other, "S. S. Capital," illustrates the use of Scotch Tape for making wipes. Mr. and Mrs. John J. Lemanski exhibited the color-films made last summer on their Honeymoon in Yellowstone National Park.

New officers were installed at this meeting. These included Lloyd Oliver, President; E. C. Sickel, Vice-President, and Miss Agnes Marx (Secretary-Treasurer and Editor of the Club's publication "Reel Stuff." The members deeply regretted that illness had prevented last year's President and Vice-President, E. E. Bauman and L. L. Harmon, from attending the February Election Meeting.

AGNES MARX, Secretary.

Splicing for Washington S.A.C.

March 3rd meeting of the Washington (D.C.) Society of Amateur Cinematographers scheduled a talk on splicing by Horace Ashton, and the screening of "Caribbean Cruise." The Society's March 17th meeting featured sound, with a demonstration of a recording and playback machine by Earl Traeger, district representative of Bell & Howell, and a screening of Bell & Howell's 16mm. sound-film "What Makes Movies Move and Talk." Also scheduled was a continuation of the Kodachrome travel-serial made by the late Harry P. Baines, this installment consisting of three reels traversing the route from Cape Town to India.

JOHN T. CHEDESTER, President.

Long Beach Has Quiz, Hawaiian Programs

The March 5th meeting of the Long Beach (Cal.) Cinema Club was in charge of the new President, Miss Mildred Caldwell, just returned from an eight-week vacation in Hawaii. She presented a 200-foot color-film of a Luau or Hawaiian feast, loaned her by Francis Williams, Secretary of the Honolulu Club, 50 Kodachrome slides loaned by the Eastman Kodak Store at Waikiki, and two of her own Kodachrome films of Hawaii. The Club at this meeting also voted to change its regular meeting place from the Y.W.C.A. to the clubroom of the Bay Shore Library in suburban Belmont Shore.

On March 11th, the Club chartered a large bus to take 40 of its members to attend the meeting of the Los Angeles 8mm. Club, where they saw a demonstration of interior lighting by Charles G. Clarke, A.S.C. On March 19th the Club held its "school night." This "College of Movie Knowledge" meeting was conducted by Harold O'Neil who spoke on "How to Make Your Pictures Tell a Story." An un-edited Kodachrome picture of Canada was shown by Lois Elliott, Will Rogers High School teacher, and the members called on to discuss the proper way for editing it. Six new members were admitted to the Club, and the membership was closed at 50.

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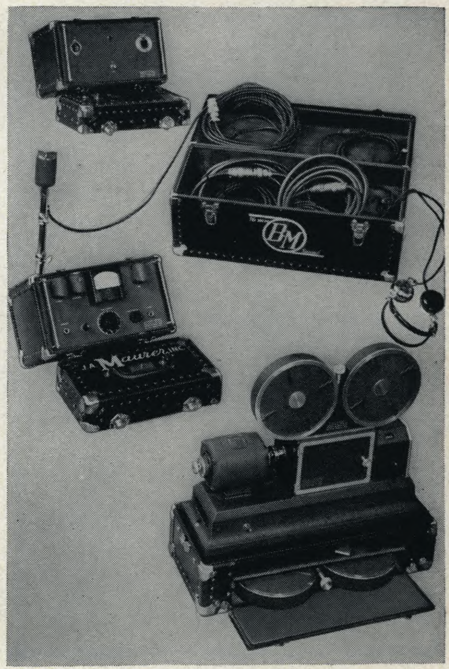

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Joe Walker

(Continued from Page 160)

the industry's best zoom lens design was developed and patented by Walker. Lenses of this design are used for zoom shots on production and on special-effects work in a number of the major studios today. He also designed a 16mm. semi-zoom lens. Another very practical invention is a method of variable diffusion, by means of which it is possible to alter the degree of diffusion during a scene. This is especially valuable in those dolly-shots which begin as a long-shot, for which relatively little diffusion is required, and move in to a close-up which may require much heavier diffusion.

Diffusion, to Walker, is another detail which should be studied with scientific care. "All of us know," he says, "that each scene, and each type of picture and player will have its own individual requirements as to diffusion. But there are other points that are all too often overlooked. Diffusion isn't an independent entity: it must be balanced with a lot of other things. The same diffusion disc or filter won't necessarily give you identical results when used over different lenses. For example, a diffuser that will give you a certain effect with a lens that is characteristically brilliant will give an entirely different effect if you use it—even on the same shot—with another lens which inclines toward softness, or toward depressed gradation.

"In the same way, diffusion must be coordinated with the film you use, and the processing that film gets. When we changed from the early high-contrast panchromatic to the improved Type II, and then on through Super-Sensitive and Super-X to today's Plus-X, we've had to make compensating changes in our diffusion technique. Maybe we didn't fully realize to what extent we did this, for each time most of us have juggled around with our lighting, etc., too: but if you'll look back to the diffusion you were using just a few years ago, and compare it with what you consider normal today, you'll agree.

"Diffusion must even take into consideration the particular characteristics of the film-processing laboratory, too. I have sometimes made pictures on other lots, where the film went through a different laboratory. In every case, I found it necessary to experiment a bit beforehand, so I could coordinate diffusion with the processing of my negative.

"And diffusion discs, like lenses, have their individual characteristics. That is why, if you look into my accessory-case, you will see such a variety of diffusers—often several discs apparently of the same type. But I know that each has its individual effects; one, for instance, may give me, in combination with a certain lens, just the quality I want for photographing, say, Irene Dunne, while another gives me the slightly different results I'll want when photographing Rosalind Russell, or some other player.

"You probably won't need such an assortment as this all the time—but I've found that when you do want a particular type of diffusion or lens-quality, it's a big asset if you have it handy. Incidentally, since I've been experimenting with the new coated lenses, I've found an interesting little trick for keeping lenses clean and dust-free. You know, some of these lens-coatings aren't particularly rugged, and with a coating only a few millionths of an inch thick, you want to keep the friction of lens-cleaning to a minimum! So I now keep all my lenses, when not in use, wrapped up tightly in the little cellophane bags the still-men use to slip over their flashbulbs. Just slip the lens in and twist the mouth of the bag tightly, and you have an excellent, dustproof lens carrier."

Walker is one of the few Directors of Photography who never served an apprenticeship as Assistant and Second Cameraman to any other cinematographer. In his early days, he was an electrical engineer, and firmly convinced he was destined to set the electrical world afire. His specialties were what was then called "wireless" and high-tension electricity. In the latter capacity he was one day called into consultation by an early-day studio, to advise them how to make a scene in which an actor was to sit in an electrified chair and emit sparks. One look told Walker that the studio electrician's set-up would not give the sparks wanted—but would undoubtedly electrocute the unfortunate actor just the same. He quickly rigged up a more practical arrangement which delivered the desired sparks with perfect safety. But watching the cameraman at work that day, the first, faint doubt arose in Wal-

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ker's mind. The photographic germ had bitten him, and it was not long thereafter that he gave up his electrical job, and went to work in a motion picture film laboratory. Here he worked up through every stage from sweeping the floor to mixing solutions, developing negative, tinting, toning and printing. At length, a rush call came for a cameraman to photograph a picture, but no man was available. Walker, despite his lack of experience in camerawork, talked himself into the job—and made good. He's been making good ever since.

"That may sound like coming up the easy way," he remarks. "But it wasn't. I had to find out everything for myself—and do it the hard way. I always managed to do it, but sometimes I was certainly praying for luck! And I've had many occasions to envy most of my fellow cinematographers who, when faced with a problem, could think back to their early training as an assistant to this or that outstanding cameraman, and recall how their teachers had solved similar problems. I still feel the lack of that varied early training, for while I don't think any of us is consciously imitative, I know that even today I sometimes wonder how another chap would handle this problem. I know, of course, how I've done similar things in the past, or how I intend to do now. But I'll admit there are times when I'd like the psychological advantage of that little mental check on my own methods."

Walker doesn't mention the other side of the picture, however—that this spirit of independence and self-reliance has given his work an individuality which has made him one of the industry's really outstanding Directors of Photography.

Coated Lenses

(Continued from Page 161)

eliminates an ordinarily imperceptible haze which ordinarily veils shadow-detail. By eliminating this haze, it permits smaller increments of illumination to produce a photographic exposure in much the same way that, as we discovered when faster films came into use, the added exposure-making sensitivity made "spilled light" pick up where previously it could be ignored. At any rate, I found the use of front-light and filler-light less necessary using coated lenses than it would have been using conventional objectives.

This style of lighting would probably not be appropriate for all types of stories, though I feel that the enhanced definition and brilliance would be suitable for more than might at first be expected. We should remember that there are styles in photography, as well as in anything else, and these styles are subject to change. My personal feeling is that the woozy, heavily-diffused style of cinematography is rapidly becoming a mode of the past. None of us, I am sure, would today count as good photography the excessively-diffused "fuzzygraphs" which fifteen or twenty years ago we considered the last word in photographic art. In the same way, I feel present-day camerawork is evolving steadily away from even the less obvious diffusion currently in use, to new standards of photographic brilliance and definition. Properly used, the coated lens is a valuable instrument in this modern trend of photography. END.

Showcase

(Continued from Page 183)

user's choice of viewpoint. It covers the field of the 50mm. lenses, slips into the universal accessory bracket on top of the Ektra, and will retail at $15.

The Right-Angle Finder for the Kodak Ektra is of particular use in obtaining unposed shots, as well as for shooting in cramped quarters where it is inconvenient to face the subject. Its price is $10.

The Ground Glass Focusing Back for the Ektra possesses several interesting design features, which fit it both for accurate and studied composition of general scenes, and for extremely critical focusing on close-up subjects—such as table-top scenes, medical specimens, and line or tone copy. Similar in shape to the Magazine Back of the Ektra, it incorporates a ground-glass panel of extremely fine texture, a self-erecting magnifier for critical focusing, and a mirror which can be set at a 45-degree angle for reflex-type focusing at various camera positions. The price is $25.

The Ektra Flash Synchronizer is a compact, highly efficient unit especially designed for use with this camera. It attaches to the top of the camera by means of the Ektra's accessory clip, and the tripper unit is simply screwed into the cable release opening of the camera. No other adjustment is required, yet the unit synchronizes for speeds up to and including 1/1500 second. The quick-ejection socket and ellipsoidal reflector are arranged to accommodate No. 30 or No. 31 Photoflash lamps. For work in dim light, a small flashlight lamp is included, which when turned on provides illumination for the scales and control dials of the Ektra. The price is $17.50.

The Kodak Tripod Clearance Head for the Ektra is a compact, inexpensive unit which raises the camera a short distance above the tripod head. This allows the hinged cover of the Magazine Back to be opened for loading or unloading, or another Magazine Back to be substituted, without removing the camera from the tripod. The price of this unit is $1.25.

5 Speeds for B&H Magazine

Bell & Howell announces the addition of a fifth speed to the Filmo Auto Master (Turret Head), and the Auto Load Speedster, B&H 16mm. magazine loading cameras. This new speed is 24 frames per second or "sound" speed. Films taken thus may have a sound-track "dubbed" in later, and since all 16mm. sound projectors operate at 24 frames per second, the action in the picture is, of course, perfectly natural. 24 speed is also ideal for slowing down rapid action to a degree more pleasing on the screen, action such as a pole vaulter rising to clear the bar, kittens at play, etc.

This new speed gives these B&H cameras a speed range of from 16 to 64 frames per second. There are now five

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speeds—the normal 16-speed, for general silent-picture use; 24-speed, for sound to be added later, etc.; 32-speed, for shooting from moving vehicles and for fast action shots; 48-speed, for semi-slow motion; and 64-speed, for analytical slow-motion study.

Agfa 35mm. Copying Films

Photographers and documentary technicians engaged in microcopying will be interested in two current developments affecting Agfa films used in their work. The films involved are Minipan and Minipositive, both made by Agfa Ansco in Binghamton, New York.

Agfa Minipan film, the new and yet already popular film of high resolving power for microcopying, is now supplied at a new, lower price. The 100-foot darkroom-loading and daylight-loading 35mm. spools now list at $5.25 each.

Agfa Minipositive, a new film with an emulsion having special characteristics essential for microcopying, is now available to complement the function of Agfa Minipan. The new Minipositive film incorporates balanced characteristics of fine grain, high contrast and high resolving power that make it ideal for preparation of positive transparencies from microcopy negatives. The standard 100-foot length, perforated or unperforated, darkroom-loading spool of Minipositive lists at $3.75.

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Kodachrome Processing

Kodachrome Film in the 35mm. and Bantam sizes can now be processed at laboratories in Rochester, Chicago, and Hollywood, and should be sent to the nearest one, the Eastman Kodak Company announces. The addresses are: Eastman Kodak Company, 1017 N. Las Palmas Avenue, Hollywood, California; Eastman Kodak Company, 1712 Prairie Avenue, Chicago, Illinois; and Eastman Kodak Company, Rochester, New York.

Filmosound Library in San Francisco

The Bell & Howell Company, Chicago, opened a San Francisco Branch of the Bell & Howell 16mm. Filmosound library this month, at Photo & Sound, Inc., San Francisco.

Photo & Sound, Inc., producers of industrial and educational pictures, will handle the film distribution and rental for Northern California, making it possible for 16mm. projection owners in that area to receive one-day service on rentals.

Bell & Howell Company now has three West Coast branches, Hollywood, San Francisco and Seattle.

Agfa Fluorapid 35mm.

Following extensive experimental work and close cooperation with interested medical authorities, a new Agfa film has been perfected which is ideally suited to the direct photography of fluorescent screens. Known as Fluorapid, the new emulsion is made by Agfa Ansco in Binghamton, New York, and will be available in various lengths of perforated 35mm. film stock.

Main application of the new Agfa Fluorapid film will be its use in large-scale x-ray surveys, where small-size records of x-ray examinations are preferred for reasons of economy and filing space. Additional applications are anticipated in other fields employing fluorescent screen images.

The characteristics of the Fluorapid emulsion include unusually high sensitivity to fluorescent-screen radiation, fine grain, moderately brilliant gradation and a color-sensitivity closely matching the spectral emission of standard fluorescent screens. Regularly available sizes of Fluorapid film will include 5½-foot spool, 36-exposure Leica-type cartridge, 250-exposure Leica FF spool, and 33- and 100-foot bulk lengths.

Oddities Shown in Film

In Milwaukee, according to Nu-Art Films of New York, a vehicle can park only two hours—unless it is hitched to a horse! This and a number of other idiosyncrasies of the traffic laws of several states are shown in the single-reel 16mm. subject, "Oddities In The Law," distributed by Nu-Art.

Rodgers G-E Studio Contact Man

Replacing Lieut. (s.g.) Francis M. Falge, recently called into active service by the U. S. Navy, Alston Rodgers, Division Engineer of the South Pacific Division of the General Electric Co. Lamp Dept., takes over the post of his firm's technical consultant on studio lighting matters. Rodgers has been actively engaged as a lighting engineer for fifteen years. He joined the Edison Lamp Works at Harrison, N. J., upon his graduation from the Stevens Institute of Technology. Subsequently he cooperated in the design of many of the outstanding lighting installations in and around New York City. He has always been particularly active in studio and theatrical lighting.

He joined the G-E Engineering Department at Nela Park (Cleveland, Ohio) in 1930, and for several years did noteworthy pioneering engineering work there. At that time he was associated with the many G-E researchers working on designs and experiments which resulted in the production and improvement of incandescent lamps for motion picture studio use.

Since 1936 Rodgers has been located in Los Angeles, as Division Engineer, and is already well-known to many studio people. He is assuming his new responsibilities immediately. Lt. Falge, his predecessor, is now on active duty with the Navy, aboard the U.S.S. *Arizona* of the Pacific Fleet. END.

Projectors—and cameras—should be oiled at frequent intervals, but sparingly. A drop or two each time is enough.

Pioneering Talkies

(Continued from Page 164)

ing camera; the blacking out by printing, of the otherwise noisy pauses in the positive sound-track (the basic patent in all processes of "noiseless recording"); the method of dubbing sound recorded in synchronism with a projected picture. This was practiced first in 1924 for *The Covered Wagon,* as exhibited in the Rivoli Theater during portions of the "Supper Shows" when Riesenfeld's Orchestra was not playing. We did the same in 1925 for his splendid score of *Siegfried,* actually recorded in the Century Theater while the orchestra was playing to the projected picture.

Monologue numbers by Eddie Cantor, George Jessel, DeWolf Hopper and Chic Sale; dialogs between Gloria Swanson and Thomas Meighan, and Weber and Fields; Fokina's Swan Dance; playlets with Raymond Hitchcock; orchestra recordings by Ben Bernie, Paul Specht, Roger Wolf Kahn, and similar entertainment made up our repertoire during this early period of 1923-27.

It may not be remembered that Technicolor was first wedded to sound in the spring of 1925, when Balieff's entire Chauve Souris was thus recorded, using a sound-camera synchronized to the color camera, whose noise was quite successfully suppressed beneath a quilt blimp within an "ice-box" booth with walls eight inches thick. The sound-track was then printed on the green positive, which dyed surface, although serving better than the red, was found quite unsuitable.

Nevertheless certain numbers of this production were exhibited during 1924-25 to enthusiastic audiences in the London Tivoli, and in Japan and Australia.

About this same time I adopted as standard back-screen equipment large vertical exponential horns of wood with a cone-speaker at the base, and trumpets with Western Electric dynamic receivers located in the bell of the horn. Theater screens were yet unperforated.

Another very practical patent taken out during this era covers the camera "blimp," in an acoustically treated studio.

"Phonofilm" reproducing apparatus installed in thirty-four theaters scattered throughout the East in 1924-25 led to the joint invention by Louis Reynolds and the author of the now well known "tone-control," whereby the operator, or a monitor in the auditorium itself, was enabled to mix the relative values of high and low frequencies to suit best the acoustic characteristics of the theater, or as the audience grew or diminished.

My early theatrical experiences were replete with humorous incidents interspersed with discouragement and heart-failure. For example, the only occasion on record when one of my first operators, Billy Brinkman, failed to forget to turn on the amplifier switch before he was applauded or kicked into that action was when he went home after the show one night and forgot to switch the amplifier off! The following matinee went off without a hitch. Unquestionably I shortened my life by several years by dashing up long flights of gallery stairs, two at a stride, to endeavor to start or improve the sound reproduction.

The spring of 1924 witnessed the first talking Newsreel, when an improvised sound-truck journeyed to Washington to record a pre-campaign talking-picture of President Coolidge on the White House lawn. That same summer saw also the Progressive Candidate, Senator La Follette, and the Democratic, John W. Davis, vieing for motion picture theater audience popularity. In 1925 Al Smith and "T. R., Jr.," each visited my studio to tell the recording camera why he should be elected Governor of New York.

The early public acceptance of this type of News Weekly readily convinced Manny Cohen, of Pathe News, that it possessed an assured future. Only our exceedingly modest royalty demands prevented him from thereby saving millions in later royalties for that organization.

Today, when the entire motion picture world has been for several years almost 100 per cent "talkie," it seems to me incredible that only a little more than a decade ago not one of the "Big Guns" in the industry believed that the talking picture had any place in the theater. Such "best minds" as Adolph Zukor, Sidney Kent, Goldwyn, *et al.,* turned a deaf ear to all arguments by myself, Hugo Riesenfeld, and Harold Franklin. When I found that William

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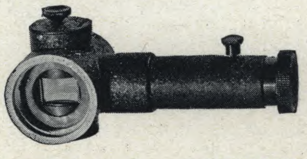

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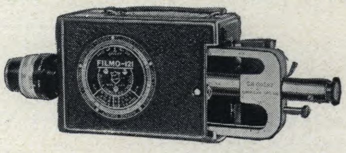

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Fox was a fellow passenger on the Berengaria as I returned with my demonstration equipment from the Berlin Laboratory, he refused to meet me even to discuss the subject. And when in 1924 he returned to New York and learned that Phonofilm was actually installed in some six of the Fox houses he peremptorily ordered them all taken out, without even deigning to witness a demonstration.

Yet a year or so later, when the far-sighted Courtland Smith had, almost surreptitiously, installed the Case equipment in the Tenth Avenue studio, Fox, then very likely aroused by reports of how "Vitaphone would astonish the world," lost no more time in tying up with the invention and launched a program which brought into being an eight million dollar "Movietone City."

Even Sam Katz, astute purveyor of the newest and most daringly original acts and stunts for entertaining a blase public, turned in 1926 the glazing eye and the clammy hand to my lieutenants who sought a limited-term contract to roadshow this "short-lived novelty" of the "Talking Picture."

Unquestionably it was the absolutely unique prescience and courage of Sam Warner, and later his brothers, which finally resulted in arousing the motion picture industry to the belated realization that here at last science and invention had created a new instrumentality, one which the mute public had long and patiently awaited; and which, once launched on the sea of public acceptance, was destined to sweep over those antiquated studios and half-empty theaters with a tidal wave of irresistible momentum, ruthlessly scrapping their worn-out equipment, outdating their time-honored technic, relegating their priceless art and high-priced artists to an oft-lamented limbo, at a cost in millions which staggered even the intoxicated imagination of Wall Street, in the millennium of predepression "rugged individualism."

But although Vitaphone and phonograph-recording got away first in its race with film-recording, the terrific handicaps of its involved technic, geometrically increasing as its public acceptance grew, inevitably led to its general abandonment in favor of the numerous practical advantages which I regarded at the very commencement of my researches as inherent to any photographic sound-on-film process.

And while on the subject of future developments I venture to prophesy an independent volume-control sound-track, shown in an early patent, will, I believe, yet demonstrate its utility in the art. The second track offers certain advantages in dubbing, avoiding all photographic complications of superimposing a loud record upon a weaker, or the reverse. In general, the inherent limitations of the emulsion may be entirely eliminated by the use of the double sound-track.

Although the author has been for the past five years quite outside of the then too crowded talking-picture activities, yet to look back upon all this history of invention, this genuine social revolution, this Caeserian birth of a national industry, in which it was his fortune to pioneer—is to me now at least a source of grim satisfaction, impossible to express. END.

Academy Honors Still-Men

Marking the first time in the history of the motion picture industry that official recognition has been extended the work of studio still photographers, the Public Relations Institute of the Academy of Motion Picture Arts and Sciences is sponsoring the First Annual Exhibition of the Artistry of Motion Picture Still Photographers. The exhibit opens on April 14 at the Academy's Review Theatre, 1455 North Gordon Street, Hollywood, and will continue until the night of April 27.

Special gold medals will be awarded to the winners in the seven exhibit classifications. These groupings include: (1), posed portrait studies (male or female) made with 8x10 camera; (2), action portraits (male or female) more with either miniature, 4x5 or 8x10 camera at discretion of entrant; (3), posed production stills made with 8x10 camera; (4), action production stills (exterior) made with 8x10 camera; (5), action stills (any type) made with miniature camera or 4x5, with or without flashlights; (6), fashion stills (feminine) made with either 4x5 or 8x10 camera, and (7) most original idea in still picture, made with any type of camera during the filming of a motion picture or in a photographic studio on the lot. Entries in this latter class may be symbolistic, modernistic, futuristic, etc., but must be from a single negative rather than a montage or enlargement "trick" still.

A total of 58 studio still photographers turned in 615 entries in these various classifications and, with six prints permissible in each entry, the judges have been faced with the huge task of analyzing 3690 individual prints. When the exhibit opens, all entries will be shown. It is stated that never before have so many photographs been assembled for public exhibition.

Requests are reported coming in from art museums, camera clubs, etc., in all parts of the country, asking that the exhibit be sent to them for special exhibitions. The officials of the Academy are planning to send the exhibit on tour to these various museums. Present plans point to the exhibit traveling throughout the United States for the next twelve months. When the second annual exhibit starts it is then planned to send this first one on a tour of South America.

Committee in charge of the exhibit consists of Perry Lieber, chairman; John Joseph, Howard Strickling, George Brown, Louis Smith, Harry Brand, Robert Taplinger, Frank Seltzer, Jock Lawrence, John LeRoy Johnston and Donald Gledhill.

The classification committee is comprised of Gene O'Brien, Leo Leftcourt, Charles Goldie, Harry Cottrell, Mike McGreal, Dannie Thomas, John LeRoy Johnston, Perry Lieber and Hal Hall.

Judges are: Peter Piening, Life; Vernon Pope, Look; Tom Maloney, U. S. Camera; Mike Kennedy, Chicago Tribune; Thomas Sherman, St. Louis Post Dispatch; Stanley Kalish, Milwaukee Journal; Arch Luther, Philadelphia Inquired; Warden Woollard, Los Angeles Examiner; Charles Judson, Los Angeles Daily News; Stanley Gordon, Los Angeles Times; Gene Withers, Los Angeles Herald-Express; Harold Swisher, Hollywood Citizen-News; George Watson, Acme Newspictures; Don Brinn, N. Y. Times-Wide World Photos; George Reineking, International News Photos; Dick Strobel, A. P. Photo Service; Gregg Toland, A.S.C., Cinematographer; Farciot Edouart, A.S.C. Technical Expert, and Ken Clayton, Des Moines Register-Tribune.

The exhibit exhibit will be open to the public, and the committee announces that amateur camera fans will be permitted to bring their cameras and flash bulbs and photograph everything. END.

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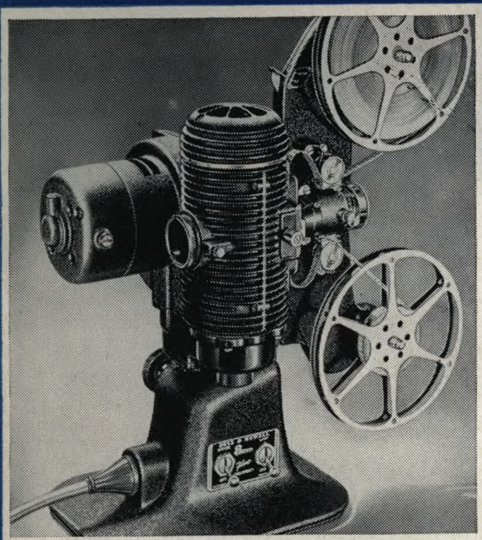

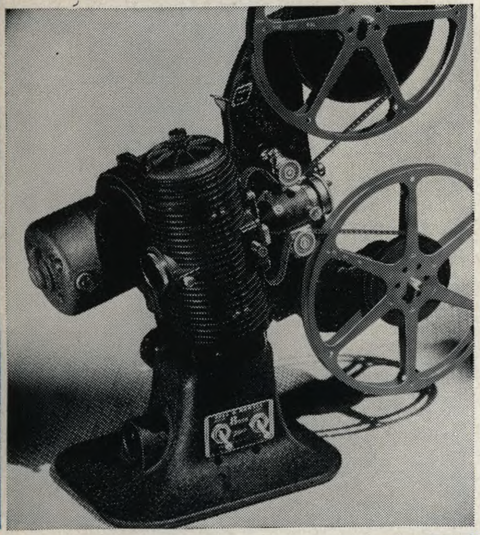

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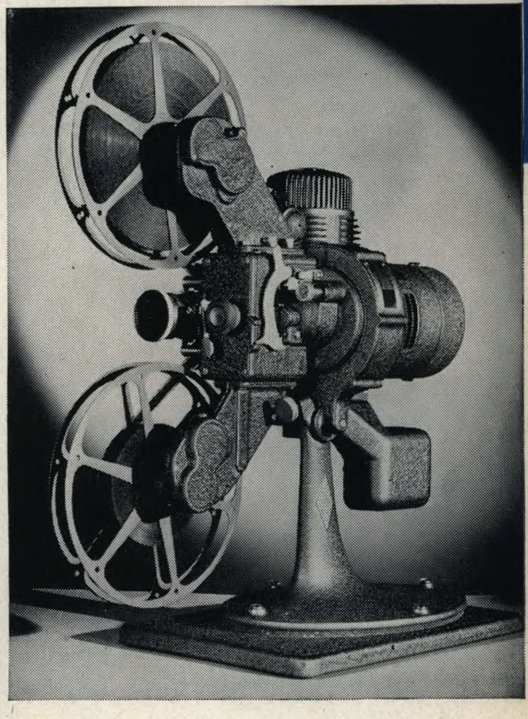

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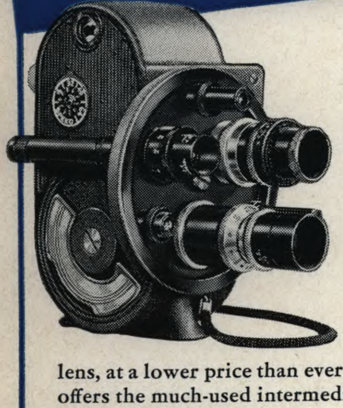

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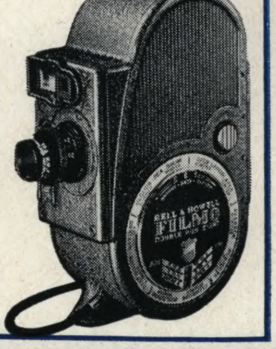

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